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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY CLASS I PERMIT

COMPANY NAME:	Arizona Public Service Company
FACILITY NAME:	Cholla Power Plant
PERMIT NUMBER:	1000108
ORIS CODE:	0113
DATE ISSUED:	January 19, 2000
EXPIRY DATE:	January 19, 2005

SUMMARY

This operating permit is issued to Arizona Public Service Company (APS), Permittee, for operation of their Cholla Power Plant, located two miles east of Joseph City on Interstate 40, Navajo County, Arizona. The Cholla Power Plant consists of four pulverized coal-fired, steam boilers which generate approximately 1,000 megawatts of electricity. Each unit is a tangentially-fired, dry bottom furnace. Natural gas and diesel fuel are used as warm-up and stabilization fuels. Unit 4 burns used oil and/or used oil fuel for energy recovery purposes and is co-fired with coal.

The control equipment used on Unit 1 are mechanical dust collectors and a wet scrubber system for control of sulfur dioxide (SO_2) and particulate matter. Unit 2 has similar particulate removal and scrubbing equipment. Unit 3 has an electrostatic precipitator for particulate removal, but does not have SO_2 control equipment. Units 2 and 3 share a common stack and are regulated as a single source for SO_2. When Unit 3 is operating and Unit 2 is out of service, a special, lower sulfur coal (approximately 0.3-0.4% by weight) is used to control SO_2 emissions. Unit 4 is equipped with an electrostatic precipitator for particulate matter removal and sulfur dioxide scrubbing equipment.

The Cholla Power Plant is classified as a Class I, Major Source, pursuant to A.A.C. R18-2-101.61. The potential emission rates of the following pollutants are greater than 100 tons per year: (i) particulate matter, (ii) sulfur dioxide, (iii) nitrogen oxides, and (iv) carbon monoxide. The Cholla Power Plant is also subject to the Acid Rain Program of the Clean Air Act.

This Class I permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes. Applicable requirements for the operations at Cholla are listed in Attachment "C" of this permit. All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All terms and conditions in this permit are enforceable by the Administrator of the United States Environmental Protection Agency (U.S. EPA), except for those terms and conditions that have been designated as "State requirements".

This Class I permit supersedes all previous operating permits issued to APS, Cholla. The terms and conditions of these permits are void as of the date of issuance of this permit. This permit incorporates the applicable requirements

contained in the underlying construction/installation permits and does not affect those applicable requirements.

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 1000108
For
Arizona Public Service - Cholla Power Plant

I. PERMIT EXPIRATION AND RENEWAL [A.R.S. § 49-426.F, A.A.C. R18-2-304.C.2 and 306.A.1]

A. This permit is valid for a period of five years from the date of issuance of the permit.

B. Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS [A.A.C. R18-2-306.A.8.a and b, A.R.S. §49-463 and A.R.S. §49-464]

A. Permittee shall comply with all the conditions contained in Attachments "A" through "F"of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. Need to halt or reduce activity not a defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE [A.A.C. R18-2-306.A.8.c and 321.A]

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Act become applicable to the Class I source. Such reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to R18-2-322(B). Any permit revision required pursuant to this subparagraph shall comply with provisions in R18-2-322 for permit renewal and shall reset the five year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under paragraph III.B.1 of this Attachment, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of this Attachment shall not result in a resetting of the five year permit term.

IV. POSTING OF PERMIT [A.A.C. R18-2-315]

A. Permittee shall post such permit, or a certificate of permit issuance on location where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly marked with one of the following:

1. Current permit number.

2. Serial number or other equipment number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on the site.

V. FEE PAYMENT [A.A.C. R18-2-326, 306.A.9.]

Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE [A.A.C. R18-2-327]

A. Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

A. Permittee shall submit a compliance certification to the Director twice each year, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year. [A.A.C. R18-2-309.2.a]

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification; [A.A.C. R18-2-309.2.c.i]

2. Compliance status with each applicable requirement; [A.A.C. R18-2-309.2.c.ii]

3. Whether compliance was continuous or intermittent; [A.A.C. R18-2-309.2.c.iii]

4. Method(s) used for determining the compliance status of the source, currently and over the reporting period; [A.A.C. R18-2-309.2.c.iv]

5. All instances of deviations from permit requirements reported pursuant to Section XI.B of this Attachment; and [A.A.C. R18-2-306.A.5.a]

6. A progress report on all outstanding compliance schedules submitted pursuant to Section XI.D of this Attachment. Progress reports submitted with compliance certifications satisfy the reporting requirements of A.A.C. R18-2-309.5.d. [A.A.C. R18-2-309.5.d]

B. A copy of all compliance certification for Class I permits shall also be submitted to the EPA Administrator. [A.A.C. R18-2-309.2.d]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS [A.A.C. R18-2-309.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY [A.A.C. R18-2-309.4]

Permittee shall allow the Director or the authorized representative of the Director upon presentation of proper credentials to:

A. Enter upon Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. REPORTING OF EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCIES

A. EXCESS EMISSIONS REPORTING [A.A.C R18-2-310.C]

1. Excess emissions, as defined in A.A.C. R18-2-101.37, shall be reported as follows:

   a. Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

      (1) Notification by telephone or facsimile within 24 hours of the time when Permittee first learned of the occurrence of excess emissions including all available information from paragraph b. of this subsection.

      (2) Detailed written notification within 72 hours of the notification pursuant to subparagraph (1) of this paragraph.

   b. Report shall contain the following information:

      (1) Identity of each stack or other emission point where the excess emissions occurred.

      (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.

      (3) Date, time and duration or expected duration of the excess emissions.

      (4) Identity of the equipment from which the excess emissions emanated.

      (5) Nature and cause of such emissions.

      (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.

      (7) Steps that were or are being taken to limit the excess emissions. If the source's permit contains procedures governing source operation during periods of start-up or malfunction and the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsection A.1.a.(2) of this Section. [A.A.C. R18-2-310.D]

3. It shall be the burden of Permittee to demonstrate, through submission of the data and information required by Section XI.A of Attachment "A", that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of excess emissions.

[A.A.C. R18-2-310.B]

B. PERMIT DEVIATIONS REPORTING [A.A.C. R18-2-306.A.5]

1. A deviation means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined through observation or through review of data obtained from any testing, monitoring, or recordkeeping established in this permit. For a situation lasting more than 24 hours which constitutes a deviation, each 24 hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:

   a. A situation where emissions exceed an emission limitation or standard;
   b. A situation where process or emission control device parameter values indicate that an emission limitation or standard has not been met;
   c. A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.

2. Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when Permittee first learned of the occurrence of the deviations.

3. All instances of deviations from permit requirements shall be clearly identified in the required semiannual monitoring report specified in Attachment "B" of this permit, and shall be certified by the responsible official. [A.A.C. R18-2-306.A.5.a]

C. EMERGENCY PROVISION [A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of paragraph 3 of this subsection are met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An emergency occurred and that Permittee can identify the cause(s) of the emergency;

   b. The permitted facility was at the time being properly operated;

   c. During the period of the emergency, Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

d. Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. COMPLIANCE SCHEDULE

For any excess emissions or permit deviations that cannot be corrected within 72 hours, Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated. [A.R.S. §426.I.5]

XII. RECORD KEEPING REQUIREMENTS [A.A.C. R18-2-306.A.4 and 313.E.6]

A. Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The name of the company or entity that performed the analyses;
4. A description of the analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

B. Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

XIII. REPORTING REQUIREMENTS [A.A.C. R18-2-306.A.5.a]

Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".
B. Reports of excess emissions, permit deviations, and emergencies in accordance with Section XI of Attachment "A".
C. Other reports required in "Monitoring, Recordkeeping and Reporting Requirements" subsections of Attachment "B".

XIV. DUTY TO PROVIDE INFORMATION [A.A.C. R18-2-304.G and 306.A.8.e]

A. Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If Permittee has failed to submit any relevant facts or if Permittee has submitted incorrect information in the permit application, Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XV. PERMIT AMENDMENT OR REVISION [A.A.C. R18-2-318, 319 and 320]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVI, as follows:

A. Administrative Permit Amendment (A.A.C. R18-2-318);

B. Minor Permit Revision (A.A.C. R18-2-319);

C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGE WITHOUT PERMIT REVISION [A.A.C. R18-2-317]

A. Permittee may make changes at the permitted source without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(19).

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions.

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements.

4. The changes satisfy all requirements for a minor permit revision under R18-2-319(A).

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of subsections (A) and (C) of this Section.

C. For each such change under subsections A and B of this Section, a written notice by certified mail or hand delivery shall be received by the Director and, for Class I permits, the Administrator, a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days

in advance of the change but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible. Each notification shall include:

1. When the proposed change will occur.

2. A description of each such change.

3. Any change in emissions of regulated air pollutants.

4. The pollutants emitted subject to the emissions trade, if any.

5. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade.

6. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply.
7. Any permit term or condition that is no longer applicable as a result of the change.

XVII. PERFORMANCE TESTING REQUIREMENTS [A.A.C. R18-2-312]

A. Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Performance tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during start-up, shutdown, and malfunction shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Performance tests shall be conducted and data reduced in accordance with the test method and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Performance Test Plan

At least 14 calendar days prior to performing a test, the owner or operator shall submit a test plan to the Director, in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. test duration;
2. test location(s);
3. test method(s); and
4. source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the required test method. Each run shall be conducted in accordance with the applicable standard and test method. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. If a sample is accidentally lost or conditions occur which are not under the Permittee's control and which may invalidate the run, compliance may, upon the Director's approval, be determined using the arithmetic mean of the other two runs. If the Director, or Director's designee, is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes, forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation which demonstrates good cause must be submitted with the test report.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XVIII. PROPERTY RIGHTS [A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XIX. SEVERABILITY CLAUSE [A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XX. PERMIT SHIELD [A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Attachment "C" of this permit. The permit shield shall not apply to any changes made pursuant to Section XV.B of this Attachment and Section XVI of this Attachment.

XXI. ACID RAIN

A. When provisions or requirements of the regulations incorporated pursuant to A.A.C. R18-2-333.A (Acid Rain) conflict with any of the applicable requirements, the regulations incorporated by A.A.C. R18-2-333.A (Acid Rain) shall apply and take precedence. [A.A.C. R18-2-333]

B. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. [A.A.C. R18-2-306.A.6.a]

C. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
[A.A.C. R18-2-306.A.6.b]

D. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act. [A.A.C. R18-2-306.A.6.c]

E. All of the following are prohibited:

1. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners or the operators of the unit or the designated representative of the owners or the operators as of the applicable allowance transfer deadline;
2. Exceedances of applicable emission rates;
3. The use of any allowance prior to the year for which it was allocated; and
4. Contravention of any other provision of the permit.

[A.A.C. R18-2-306.A.6.d]

XXII. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then Permittee shall comply with these provisions according to the timeline specified in 40 CFR Part 68. [40 CFR 68]

XXIII. PROTECTION OF STRATOSPHERIC OZONE

If this source becomes subject to the provisions of 40 CFR Part 82, then Permittee shall comply with these provisions accordingly. [40 CFR 82]

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 1000108
For
Arizona Public Service Company - Cholla Power Plant

I. GENERAL REQUIREMENTS

A. The permit conditions or portions of the permit conditions which are material pursuant to A.A.C. R18-2-331 and A.R.S. §49-464 are indicated by a *double underlined and italicized print*.

B. Definitions

1. Compliance coal

"Compliance coal" refers to coal of a sulfur content adequate to meet the sulfur dioxide emission limitation of 0.8 pounds per million Btu, when averaged over a three-hour period. [PSD Permit No. M170843S1-98, Attachment "B", Condition XII.C]

2. Regular coal

"Regular coal" is any coal other than compliance coal.

3. Startup for Steam Boiler Units 2, 3 and 4

"Startup" means the setting in operation of a steam boiler unit for any purpose. For opacity purposes, startup begins when any forced draft, induced draft, or booster induced draft fan of the unit is turned on for any purpose. [40 CFR 60.2]

4. Shutdown for Steam Boiler Units 2, 3 and 4

"Shutdown" means the cessation of operation of a steam boiler unit for any purpose. For opacity purposes, shutdown begins when the unit begins to drop load to go off line and ends when all fans of the unit are turned off. [40 CFR 60.2]

5. Malfunction for Steam Boiler Units 2, 3 and 4

"Malfunction" means any sudden and unavoidable failure of air pollution control equipment, process equipment or a process to operate in a normal and usual manner, but does not include failures that are caused by poor maintenance, careless operation or any other upset condition or equipment breakdown which could have been prevented by the exercise of reasonable care. [40 CFR 60.2]

6. Boiler operating day

"Boiler operating day" means a 24-hour period during which fossil fuel is combusted in a steam generating unit for the entire 24 hours. [40 CFR 60.41a]

C. For the purpose of this permit, unless otherwise specified in the applicable standards, for any facilities subject to the new source performance standards from 40 CFR Part 60, compliance with such standards

other than opacity standards shall be determined in accordance with performance tests. The performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the subsection "Performance Testing Requirements" of each applicable section. [40 CFR 60.11(a) and 8(b)]

D. For the purpose of this permit, for any facilities subject to the new source performance standards from 40 CFR Part 60, compliance with the new source opacity standards shall be determined by conducting observations in accordance with EPA Reference Method 9, or any alternative method that is approved by the Director, unless Permittee elects to submit continuous opacity monitoring system data for compliance with the opacity standards. [40 CFR 60.11(b)]

E. For the purpose of submitting compliance certifications or establishing whether or not Permittee has violated or is in violation of any new source performance standards from 40 CFR 60 subsumed under this attachment, nothing in this attachment shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with such standards if the appropriate performance or compliance test or procedure had been performed. [40 CFR 60.11(g)]

F. For the purpose of this permit, the EPA Reference Method 9 reading shall be defined as an average of 24 consecutive opacity observations recorded at 15-second intervals. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. [A.A.C. R18-2-306.A.3.b and 40 CFR 60, Appendix A, Method 9, Section 2.5]

G. Within 180 days of issuance of this permit, Permittee shall have on staff a person that is certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.b]

H. Within fourteen (14) calendar days after the compliance certifications required by Section VII of Attachment "A" have been submitted, Permittee shall submit summary reports of all monitoring activities required in this Attachment performed in the six months prior to the date of the report. [A.A.C. R18-2-306.A.5.a]

II. STEAM BOILER UNIT 1

A. Emission Limits/Standards

1. Opacity Standard

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent from the stack of Steam Boiler Unit 1, the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of the visible emissions requirement, such exceedance shall not constitute a violation. [A.A.C. R18-2-702.B and C]

2. Particulate Matter Standard [A.A.C. R18-2-703.C.1 and D]

Permittee shall not cause, allow or permit the emission of particulate matter from the stack of Steam Boiler Unit 1 in excess of the amounts calculated by the following equation and rounded off to two decimal places:

$E = 1.02\ Q^{0.769}$

Where
E = the maximum allowable particulate matter emissions rate in pounds-mass per hour
Q = the heat input in million Btu per hour

3. Sulfur Dioxide Standard

   a. Permittee shall not cause, allow, or permit emissions of more than 1.0 pounds of sulfur dioxide maximum three hour average, per million Btu (430 nanograms per joule) heat input from the stack of Steam Boiler Unit 1. [A.A.C. R18-2-703.G.1]

   b. Permittee shall achieve at least 80 percent sulfur dioxide removal efficiency from the Steam Boiler Unit 1 and associated control device on a 30 successive boiler operating day rolling average. [Installation Permit No. 1247, Attachment "B", Condition II.B]

4. Fuel Limitation [Installation Permit No. 1002]

   Permittee shall burn only the following fuels in Steam Boiler Unit 1:

   a. Coal;
   b. Natural Gas for startup and stabilization.

5. Definition of Heat Input

   For the purpose of conditions II.A.2 and II.A.3 of this section, "heat input" is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with A.A.C. R18-2-311.
   [A.A.C. R18-2-703.B]

B. Air Pollution Control Requirements

1. Sulfur dioxide

   Permittee shall, at all times, including periods of startup, shutdown and malfunction, to the extent practicable, operate and maintain Steam Boiler Unit 1 and *its lime slurry scrubber/absorber in a manner consistent with good air pollution control practice for minimizing sulfur dioxide emissions.* [Installation Permit No. 1247]

2. Particulate Matter

   Permittee shall, at all times, including periods of startup, shutdown and malfunction, to the extent practicable, operate and maintain Steam Boiler Unit 1 and *its mechanical dust collectors and lime slurry scrubbing system in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [Installation Permit No. 1002]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Continuous Monitoring for Opacity, SO_2, and O_2

a. Permittee shall calibrate, maintain, and operate the continuous emission monitoring systems (CEMS) at the stack of Steam Boiler Unit 1 for measuring the opacity, sulfur dioxide, and oxygen content, except when the unit is in operation. [A.A.C. R18-2-313.A.2, 313.C.1 and 703.J]

b. To determine the 30 successive boiler operating day rolling average SO_2 removal efficiency specified in paragraph II.A.3.b of this attachment for Steam Boiler Unit 1, Permittee shall conduct the following: [A.A.C. R18-2-306.A.3.c]

(1) Obtain average SO_2 CEMS data of the unit on a daily basis;

(2) Obtain vendor-delivered coal analysis data for the coal loaded to the silos of the unit on a daily basis;

(3) Calculate average daily removal efficiency by comparing the average daily SO_2 CEMS data described in (1) for the current boiler operating day with the coal analysis data described in (2) for the previous boiler operating day; and

(4) Accumulate the average daily removal efficiencies described in (3) at the end of each boiler operating day for the last 30 successive boiler operating days to calculate the 30-day rolling average removal efficiency and to determine compliance with the standard of 80% removal efficiency.

c. The continuous emission monitoring systems for SO_2 and O_2 shall meet the following requirements: [A.A.C. R18-2-313]

(1) 40 CFR Part 75, Appendix A, "Specification and Test Procedures"
   (a) Installation and measurement location
   (b) Equipment specifications
   (c) Performance specifications
   (d) Data acquisition and handling systems
   (e) Calibration gas
   (f) Certifications tests and procedures
   (g) Calculations

(2) 40 CFR Part 75, Appendix B, "Quality Assurance and Quality Control Procedure"
   (a) Quality control program
   (b) Frequency of testing

(3) Data Reduction

Permittee shall comply with the data reduction requirements of 40 CFR Part 75.10(d)(1).

(4) 40 CFR Part 75, Appendix F, "Conversion Procedures"

Permittee shall convert all hourly pollutant and diluent data to the applicable emissions standard utilizing the procedures of 40 CFR Part 75, Appendix F.

d. The continuous opacity monitoring systems shall meet the following requirements:
[A.A.C. R18-2-313]

(1) 40 CFR 60, Appendix B, Performance Specification 1, Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources
(a) Apparatus
(b) Installation Specifications
(c) Design and Performance Specifications
(d) Design Specifications Verification Procedure
(e) Performance Specifications Verification Procedure
(f) Equations

[A.A.C. R18-2-313.D.1.a]

(2) Quality Assurance Requirements

(a) Calibration Checks

Permittee shall record the zero and span drift in accordance with the method prescribed by the manufacturer's recommended zero and span check at least once daily unless the manufacturer has recommended adjustments at shorter intervals, in which case such recommendations shall be followed. [A.A.C. R18-2-313.D.6]

(b) Zero and Span Drift Adjustments

i) Permittee shall adjust the zero or span whenever the 24-hour zero drift or 24-hour calibration drift limits of 2% opacity are exceeded. [A.A.C. R18-2-313.D.6]

ii) The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. [A.A.C. R18-2-313.D.6]

iii) The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. [40 CFR 60, Appendix B, PS1, 5.1.6]

iv) The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity. [40 CFR 60, Appendix B, PS1, 5.1.7]

(c) Minimum Frequency of Operation

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 15-second period and one cycle of data recording for each successive 6-minute period.

[A.A.C. R18-2-313.E.2]

(d) Data Reduction Procedures [A.A.C. R18-2-313.E]

i) Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 24 or more data points equally spaced over each 6-minute period.
ii) Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under

the previous paragraph. An arithmetic or integrated average of all data may be used.

e. Recordkeeping and Reporting Requirements

(1) Quarterly reporting requirements

(a) Permittee shall submit to the Director a written report of all emission exceedances for each calendar quarter and the nature and cause of the exceedances, if known, postmarked by the 30th day following the end of each calendar quarter. The averaging period used for data reporting shall correspond to the averaging period specified in the emission standard. The required report shall include, as a minimum, the data stipulated in this subsection. [A.A.C. R18-2-313.E.1]

(b) For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of all six-minute opacity averages greater than any applicable standards for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four equally spaced, instantaneous opacity measurements per minute. Any time periods exempted shall be deleted before determining any averages in excess of opacity standards. [A.A.C. R18-2-313.E.2]

(c) For gaseous measurements the summary shall consist of emission averages in the units of the applicable standard for each averaging period during which the applicable standard was exceeded. [A.A.C. R18-2-313.E.3]

(d) For SO_2 removal efficiency, the summary shall include the 30-day rolling average of the removal efficiency for each day in the quarter. [Installation Permit No. 1247]

(e) The date and time identifying each period during which the continuous emission monitoring system was inoperative, except for zero and span checks and the nature of system repair or adjustment shall be reported. The Director may require proof of continuous emission monitoring system performance whenever system repairs or adjustments have been made. [A.A.C. R18-2-313.E.4]

(2) Emission deviations reporting requirements

In addition to paragraph (1) above, Permittee shall report emissions exceeding an emission limitation or standard as deviations in accordance with Section XI.B of Attachment "A" of this permit. [A.A.C. R18-2-306.A.5.b]

(3) When no emission exceedances/deviations have occurred and the continuous emission monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the quarterly report. [A.A.C. R18-2-306.A.5.b and 313.E.5]

(4) Permittee shall comply with all the recordkeeping and reporting requirements of 40 CFR Part 75 Subparts F and G respectively. [A.A.C. R18-2-306.A.4 and 5]

2. Periodic Monitoring for Particulate Matter [A.A.C. R18-2-306.A.3.b]

a. Permittee shall evaluate opacity measurements from the continuous opacity monitoring system (COMS) on a 3-hr rolling average. If the 3-hr rolling average opacity exceeds 40 percent, Permittee shall initiate investigation of the control equipment within 24 hours of the first exceedance for possible corrective action. If corrective action is required, Permittee shall proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the particulate standard established in paragraphs II.A.2 of this section. If the 3-hr rolling average opacity remains above 40 percent for consecutive 72 hours after the first exceedance, Permittee shall submit a compliance schedule to the Department in accordance with paragraph XI.D of the Attachment "A".

b. Permittee shall log in ink or electronic format and maintain a record of 3-hr opacity measurements performed in accordance with paragraph (a) above and any corrective actions taken. A record of corrective actions taken shall include recording the date and time of the 3-hr rolling average opacity exceeded 40 percent and the date and time corrective action, if any, is completed.

3. Recordkeeping for Coal Analysis

Permittee shall maintain a file of vendor provided coal analyses reports for the coal loaded to Steam Boiler Unit 1 silos, and date and time of the loading. [A.A.C. R18-2-306.A.4.a]

D. Performance Testing Requirements

1. Opacity

Permittee shall perform an annual opacity observation of the stack of Steam Boiler Unit 1 in accordance with EPA Reference Method 9. [A.A.C. R18-2-312.A]

2. Particulate Matter

Permittee shall use the applicable reference methods given in the Appendices to 40 CFR 60 to determine compliance with the standard of particulate matter emissions from the stack of Steam Boiler Unit 1, as specified in paragraph II.A.2 of this section. The performance test using such reference methods shall be conducted annually and during operation at the nominal rated capacity of the unit. [A.A.C. R18-2-311.A, 312.A, 703.B and 703.K]

3. Sulfur Dioxide

a. Permittee shall use the applicable reference methods given in the Appendices to 40 CFR 60 to determine compliance with the standard of sulfur dioxide emissions from the stack of Steam Boiler Unit 1, as specified in paragraph II.A.3.a of this section. The performance test using such reference methods shall be conducted annually and during operation at the nominal rated capacity of the unit. [A.A.C. R18-2-311.A, 312.A, 703.B and 703.K]

b. Permittee shall determine compliance with the sulfur dioxide removal efficiency standard, as specified in paragraph II.A.3.b of this section, by comparing the delivered coal analysis for the coal loaded to the silos of the unit on a daily basis against the daily average CEMS data for the succeeding day to determine the removal efficiency. The daily averages will be accumulated on a 30-successive boiler operating day rolling average, as defined in 40 CFR 60.43a.
[Installation Permit No. 1247, Attachment "B", Condition II.B]

III. STEAM BOILER UNIT 2

A. Emission Limits/Standards

1. Opacity Standard

The opacity of emissions from the stack of Steam Boiler Unit 2 shall not be greater than 20 percent at all times except for periods of startup, shutdown, and malfunction as defined in paragraphs I.B.3, 4 and 5 of this attachment, and for one six-minute period per hour of not more than 27 percent opacity. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with the opacity standard.

[40 CFR 60.42(a)(2), 60.11(c) and 60.11(e)(1)]

2. Particulate Matter Standard

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 2, any gases which contain particulate matter in excess of 43 nanogram per joule heat input (0.10 lb per million Btu) derived from fossil fuel. [40 CFR 60.42(a)(1)]

3. Sulfur Dioxide Standard

a. Permittee shall not cause to be discharged into the atmosphere from Steam Boiler Unit 2 any gases which contain sulfur dioxide in excess of 0.8 pounds per million Btu heat input; and

[PSD Permit No. M170843S1-98, Attachment "B", Condition XII.B.1]

b. Permittee shall not cause to be discharged into the atmosphere from Steam Boiler Unit 2 any gases which contain sulfur dioxide in excess of 10 percent of the potential combustion concentration (90 percent reduction).

[PSD Permit No. M170843S1-98, Attachment "B", Condition XII.B.1]

c. The sulfur dioxide emission standards required under paragraphs III.A.3.a and b above shall apply at all times except during periods of startup, shutdown, or when both emergency conditions, as defined in 40 CFR 60.41a, exist and emergency procedures under paragraph III.B.2.d of this section are implemented. [PSD Permit No. M170843S1-98 and 40 CFR 60.46a(c)]

4. Nitrogen Oxide Standard

a. Coal

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 2 any gases which contain nitrogen oxides, expressed as NO_2 in excess of 300 nanogram per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel.

[40 CFR 60.44(a) and 44(a)(3)]

b. Combination Fuels

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 2, when different fossil fuels are burned simultaneously in any combination, any gases which

contain nitrogen oxides in excess of the applicable standard (in ng/J) derived using the following proration formula: [40 CFR 60.44(b)]

$$PS_{NOX} = \frac{w(260) + x(86) + y(130) + z(300)}{w+x+y+z}$$

Where:

PS_{NOX} = prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;
w = percentage of total heat input derived from lignite;
x = percentage of total heat input derived from gaseous fossil fuel;
y = percentage of total heat input derived from liquid fossil fuel; and
z = percentage of total heat input derived from solid fossil fuel (except lignite).

5. Fuel Limitation [Installation Permit No. 1037]

Permittee shall burn only the following fuels in Steam Boiler Unit 2:
a. Coal;
b. No. 2 fuel oil for startup and stabilization.

B. Air Pollution Control Requirements

1. Control Requirements

a. Sulfur dioxide control

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, continue to operate and maintain Steam Boiler Unit 2 and *its lime thiosulfate Venturi flooded disc scrubbers (Venturi scrubbers) and absorbers in a manner consistent with good air pollution control practice for minimizing sulfur dioxide emissions.* [40 CFR 60.11(d) and PSD Permit No. M170843S1-98, Attachment "B", Condition XVI]

b. Particulate matter control

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, continue to operate and maintain Steam Boiler Unit 2 and *its mechanical dust collectors and Venturi scrubbers in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [40 CFR 60.11(d)]

2. Operation Procedures

a. Startup

During startups of Steam Boiler Unit 2, the Venturi scrubbers and absorbers of the unit shall be placed in service within one hour of the boiler-induced draft fans and forced draft fans being placed in service and before fires are in the boiler. [40 CFR 60.11(d)]

b. Shutdown

During shutdowns of Steam Boiler Unit 2, the Venturi scrubbers and absorbers of the unit shall remain in service after fires in the boiler are out and shall not be taken out of service until just prior to the boiler forced draft fans and induced draft fans being turned off. [40 CFR 60.11(d)]

c. Malfunction

For Steam Boiler Unit 2 with any malfunction of its Venturi scrubbers that exceeds four hours, if fires are in the boiler, Permittee shall reduce the unit's load so that the Venturi scrubbers in service can properly process and treat the volume of flue gas being produced. If a malfunction makes it impossible to properly process and treat the volume of flue gas being produced, the unit shall be shut down. [40 CFR 60.11(d)]

d. Emergency [PSD Permit No. M170843S1-98]

During emergency conditions as defined in 40 CFR 60.41a, Steam Boiler Unit 2 with a malfunctioning flue gas desulfurization (FGD) system may be operated if sulfur dioxide emissions are minimized by:

(1) *Operating all operable flue gas desulfurization system modules, and bringing back into operation any malfunctioned module as soon as repairs are completed;* [40 CFR 60.46a(d)(1)]

(2) *Bypassing flue gases around only those flue gas desulfurization system modules that have been taken out of operation because they were incapable of any sulfur dioxide emission reduction or which would have suffered significant physical damage if they had remained in operation*; and [40 CFR 60.46a(d)(2)]

(3) Designing, *constructing, and operating a spare FGD system module for Steam Boiler Unit 2*. Permittee shall demonstrate the capability of the spare FGD system in accordance with 40 CFR 60.46a(d)(3). [40 CFR 60.46a(d)(3)]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Continuous Monitoring for Opacity, SO_2 and NOx Emissions, and O_2 Content

a. Opacity

Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions. [40 CFR 60.45(a)]

b. NOx

Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring the nitrogen oxides emissions. [40 CFR 60.45(a)]

c. SO_2 and O_2 [PSD Permit No. M170843S1-98, Attachment "B", Condition XV.A]

(1) Permittee shall calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring sulfur dioxide emissions. The sulfur dioxide emissions shall be monitored at both the inlet and outlet of the sulfur dioxide control device.

[40 CFR 60.47a(b)]

(2) Permittee shall calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen content of the flue gases at each location where SO_2 emissions are monitored. [40 CFR 60.47a(d)]

(3) Permittee shall operate the SO_2 and O_2 continuous monitoring systems and record data during all periods of operation of Steam Boiler Unit 2 including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdown, repairs, calibration checks, and zero and span adjustments. [40 CFR 60.47a(e)]

(4) Permittee shall obtain the SO_2 emission data for at least 18 hours in at least 22 out of 30 successive boiler operating days. [40 CFR 60.47a(f)]

d. The continuous emission monitoring systems for SO_2, NOx, and O_2 shall meet the following requirements:

(1) 40 CFR Part 75, Appendix A, "Specification and Test Procedures" [40 CFR 60.13]
   (a) Installation and measurement location
   (b) Equipment specifications
   (c) Performance specifications
   (d) Data acquisition and handling systems
   (e) Calibration gas
   (f) Certifications tests and procedures
   (g) Calculations

(2) 40 CFR Part 75, Appendix B, "Quality Assurance and Quality Control Procedure" [40 CFR 60.13]
   (a) Quality control program
   (b) Frequency of testing

(3) Data Reduction [40 CFR 60.13(h)]

Permittee shall comply with the data reduction requirements of 40 CFR Part 75.10(d)(1).

(4) 40 CFR Part 75, Appendix F, "Conversion Procedures" [A.A.C. R18-2-306.A.3.a]

Permittee shall convert all hourly pollutant and diluent data to the applicable emissions standard utilizing the procedures of 40 CFR Part 75, Appendix F.

e. Sulfur Dioxide Emissions Missing Data Supplemental Procedures
[40 CFR 60.47a(f), (h) and (j) and PSD Permit No. M170843S1-98, Attachment "B", Condition XV.A]

If the minimum data requirement specified in paragraph III.C.1.c(4) above cannot be met with the continuous monitoring system in use, Permittee shall supplement SO_2 emission data with other monitoring systems approved by the Director or the following reference methods and procedures:

(1) Reference Method 6 shall be used to determine the SO_2 concentration at the same location as the SO_2 monitor.

(2) The emission rate correction factor, integrated bag sampling and analysis procedure of Reference Method 3B shall be used to determine the O_2 concentration at the same location as the O_2 monitor.

(3) The procedures in Reference Method 19 shall be used to compute each 1-hour average concentration in ng/J (pounds per million Btu).

(4) As alternatives, the reference methods and procedures described in 40 CFR 47a(j) may be used.

f. The continuous opacity monitoring system shall meet the following requirements:

(1) 40 CFR 60, Appendix B, Performance Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources"

[40 CFR 60.13]

(a) Apparatus
(b) Installation Specifications
(c) Design and Performance Specifications
(d) Design Specifications Verification Procedure
(e) Performance Specifications Verification Procedure
(f) Equations

(2) Quality assurance requirements:

(a) Calibration Checks
Permittee shall check the zero (or low-level value between 0 and 20% of span value) and span calibration drifts at least once daily in accordance with a written procedure.

[40 CFR 60.13(d)(1)]

(b) Zero and Span Drift Adjustments

i) The zero and span shall, as a minimum, be adjusted whenever the 24-hr zero drift or 24-hr span drift exceeds 4% opacity. [40 CFR 60.13(d)(1)]

ii) The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. [40 CFR 60.13(d)(1)]

iii) The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. [40 CFR 60.13(d)(1)]

iv) For systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity.

[40 CFR 60.13(d)(1)]

(c) System Checks

A method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam to provide a system check of the analyzer internal

optical surfaces and all electronic circuitry including the lamp and photo detector assembly shall be used by the Permittee. [40 CFR 60.13(d)(2)]

(d) Minimum Frequency of Operation

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

[40 CFR 60.13(e)(1)]

(e) Data Reduction Procedures [40 CFR 60.13(h)]

i) Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

ii) Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under the previous paragraph. An arithmetic or integrated average of all data may be used.

g. Recordkeeping and Reporting Requirements

(1) Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this section recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports and records.

[40 CFR 60.7(f)]

(2) Permittee shall comply with all the recordkeeping and reporting requirements specified in 40 CFR Part 75 Subparts F and G, respectively. [40 CFR 60.7]

(3) Permittee shall record in a permanent log for each shutdown, the date and time Steam Boiler Unit 2 intends to begin dropping load to go off line. The log shall be retained for at least five (5) years following the date of each shutdown. [A.A.C. R18-2-306.A.4]

(4) Quarterly excess emissions and monitoring system performance reports

(a) Permittee shall submit an excess emissions and monitoring systems performance (MSP) report and/or a summary report form to the Department for every calendar quarter, unless the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and the continuous monitoring system downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, in which case only the summary report form shall be

submitted and the excess emissions report need not be submitted unless requested by the Department. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.7(c) and (d), 45(g) and 49a(i)]

(b) The summary report form submission required in the preceding paragraph (a) shall be in the format specified in 40 CFR 60.7(d). Each excess emission and MSP report shall include the following information: [40 CFR 60.7(c)]

i) The magnitude of excess emissions computed, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

ii) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the steam boiler unit. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(c) Definitions

Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

i) Opacity

Opacity excess emissions are defined as any six-minute period during which the average opacity of emissions from Steam Boiler Unit 2 stack exceeds 20 percent opacity as measured by a continuous opacity monitor, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

[40 CFR 60.45(g)(1)]

ii) Sulfur Dioxide

Unless otherwise specified, SO_2 excess emissions are defined as any 30 successive boiler operating days for which, except for data obtained during startup, shutdown, or emergency conditions, the arithmetic average of all hourly emission rates for sulfur dioxide exceeds the applicable standard of 0.8 pounds per million Btu heat input, or the percentage sulfur dioxide reduction falls below the applicable standard of 90 percent, as required in paragraph III.A.3 of this attachment. The percentage sulfur dioxide reduction is determined based on the average inlet and average outlet SO_2 emission rates for the 30 successive boiler operating days.

[40 CFR 60.46a(e), (g) and PSD Permit No. M170843S1-98, Attachment "B", Condition XII.A]

iii) Nitrogen Oxides

NOx excess emissions for Steam Boiler Unit 2 are defined as any three-hour period during which the average NOx emissions (arithmetic average of three contiguous one-hour periods), as measured by a continuous emissions monitoring system, exceed the applicable standards specified in paragraph III.A.4 of this attachment. [40 CFR 60.45(g)(3)]

(5) Emission deviations reporting requirements

In addition to the quarterly reporting required under paragraph III.C.1.g(4) above, Permittee shall report emissions exceeding an emission limitation or standard as deviations in accordance with Section XI.B of Attachment "A" of this permit. [A.A.C. R18-2-306.A.5.b]

(6) Subpart Da Reporting Requirements for Sulfur Dioxide
[PSD Permit No. M170843S1-98, Attachment "B", Condition XV.B.6]

Permittee shall include in the quarterly reports required under paragraph III.C.1.g(4) the following additional information in regard to sulfur dioxide:

(a) For sulfur dioxide, the following information shall be reported to the Director for each 24-hour period: [40 CFR 60.49a(b)]

i) Calender date;

ii) Average sulfur dioxide emission rates (ng/J or lb/million Btu) for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and description of corrective actions taken.

iii) Percent reduction of the potential combustion concentration of sulfur dioxide for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and description of corrective actions taken.

iv) Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 18 hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.

v) Identification of the time when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, emergency conditions, or other reasons, and justification for excluding data for reasons other than startup, shutdown, or emergency conditions.

vi) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

vii) Identification of times when hourly averages have been obtained based on manual sampling methods.

viii) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

ix) Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(b) For the purpose of SO_2 emission reporting, minimum quantity of SO_2 emission data requires that the available data from CEMS for each boiler operating day be at least 18 hours in at least 22 out of 30 successive boiler operating days. If the minimum quantity of emissions data is not obtained for any 30 successive boiler operating days, the following information shall be reported to the Director for that 30-day period:
[40 CFR 60.47a(f) and 49a(c)]

i) The number of hourly averages available for the outlet emission rates (n_o) and the inlet emission rates (n_i) as applicable.

ii) The standard deviation of hourly averages for the outlet emission rates (s_o) and inlet emission rates (s_i) as applicable.

iii) The lower confidence limit for the mean outlet emission rate (E_o*) and the upper confidence limit for the mean inlet emission rate (E_i*) as applicable.

iv) The applicable potential combustion concentration.

v) The ratio of the upper confidence limit for the mean outlet emission rate (E_0^*) and the allowable emission rate (E_{std}) as applicable.

(c) If the sulfur dioxide standards under paragraph III.A.3.a and b of this Attachment are exceeded during emergency conditions because of control system malfunction, Permittee shall submit a signed statement: [40 CFR 60.49a(d)]

i) Indicating if emergency conditions existed and requirements under paragraph III.B.2.d (Emergency Procedures) of this attachment were met during each period, and

ii) Listing the following information:

a) Time periods the emergency condition existed;
b) Electrical output and demand on the owner or operator's electric utility system and the affected facility;
c) Amount of power purchased from interconnected neighboring utility companies during the emergency period;
d) Percent reduction in emissions achieved;
e) Atmospheric emission rate (ng/J) of the pollutant discharged; and
f) Actions taken to correct control system malfunction.

(d) If fuel pretreatment credit toward the sulfur dioxide emission standard is claimed, Permittee shall submit a signed statement: [40 CFR 60.49a(e)]

i) Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of paragraph III.A.3.c(1) of this attachment and Method 19 (appendix A); and

ii) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.

(e) For any periods for which sulfur dioxide emissions data are not available, Permittee shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability. [40 CFR 60.49a(f)]

(f) Permittee shall submit a signed statement indicating whether: [40 CFR 60.49a(g)]

i) The required sulfur dioxide continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.

ii) The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this section and is representative of plant performance.

iii) The minimum data requirements have or have not been met; or, the minimum data requirements have not been met for errors that were unavoidable.

iv) Compliance with the standards has or has not been achieved during the reporting period.

2. Periodic Monitoring for Particulate Matter [A.A.C. R18-2-306.A.3.b]

a. Permittee shall evaluate opacity measurements from the continuous opacity monitoring system (COMS) on a 3-hr rolling average excluding periods of startup, shutdown, or malfunction. If the 3-hr rolling average opacity exceeds 20 percent, Permittee shall initiate investigation of the control equipment within 24 hours of the first exceedance for possible corrective action. If corrective action is required, Permittee shall proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the particulate standard established in paragraphs III.A.2 of this attachment. If the 3-hr rolling average opacity remains above 20 percent for 72 consecutive hours after the first exceedance, Permittee shall submit a compliance schedule to the Department in accordance with paragraph XI.D of the Attachment "A".

b. Permittee shall log in ink or electronic format and maintain a record of 3-hr opacity measurements performed in accordance with paragraph a above and any corrective actions taken. A record of corrective actions taken shall include recording the date and time of the 3-hr rolling average opacity exceeded 20 percent and the date and time corrective action, if any, is completed.

D. Performance Testing Requirements

1. Opacity

Permittee shall perform an annual opacity observation of the stack of Steam Boiler Unit 2 in accordance with EPA Reference Method 9. [40 CFR 60.8(a) and 46(b)(3)]

2. Particulate Matter and Nitrogen Oxides

Permittee shall perform annual performance tests for particulate matter and nitrogen oxides emissions from the stack of Steam Boiler Unit 2, using the following reference methods and procedures. [40 CFR 60.8(a)]

a. Particulate Matter

EPA Reference Method 5 or 5B shall be used to determine the particulate matter concentration (C) at the stack of Steam Boiler Unit 2. [40 CFR 60.46(b)(2)]

b. Nitrogen Oxides

EPA Reference Method 7 shall be used to determine the nitrogen oxides concentration (C) at the stack of Steam Boiler Unit 2. [40 CFR 60.46(b)(5)]

c. Emission Rate

For the purpose of compliance determination, the emission rate (E) of PM or NO_x shall be computed for each run using the following equation: [40 CFR 60.46(b)(1)]

$E = C F_d (20.9)/(20.9 - \%O_2)$

E = emission rate of pollutant, ng/J (1b/million Btu).
C = concentration of pollutant, ng/dscm (1b/dscf).
$\%O_2$ = oxygen concentration, percent dry basis.
F_d = factor as determined from Method 19.

d. Permittee may conduct the annual performance tests using alternatives described in 40 CFR 60.46(d).

3. Sulfur Dioxide [PSD Permit No. M170843S1-98]

a. Compliance determination procedures and methods

(1) Permittee shall determine compliance with the SO_2 standards specified in paragraphs III.A.3.a and b of this attachment as follows:

(a) The percent of potential SO_2 emissions (%Ps) to the atmosphere shall be computed using the following equation: [40 CFR 60.48a(c)(1)]

%Ps=[(100 - %Rf) (100 - %Rg)]/100

where:
%Ps=percent of potential SO_2 emissions, percent

%Rf=percent reduction from fuel pretreatment, percent
%Rg=percent reduction by SO_2 control system, percent

(b) The procedures in EPA Reference Method 19 may be used to determine percent reduction (%Rf) of sulfur by such processes as fuel pretreatment (physical coal cleaning, hydrodesulfurization of fuel oil, etc.), coal pulverizes, and bottom and fly ash interactions. This determination is optional. [40 CFR 60.48a(c)(2)]

(c) The procedures in EPA Reference Method 19 shall be used to determine the percent SO_2 reduction (%Rg) of any SO_2 control system. [40 CFR 60.48a(c)(3)]

(d) The appropriate procedures in EPA Reference Method 19 shall be used to determine the emission rate. [40 CFR 60.48a(c)(4)]

(e) The continuous monitoring system required in paragraph III.C.1.c of this attachment shall be used to determine the concentrations of SO_2 and O_2. [40 CFR 60.48a(c)(5)]

(2) Compliance with the sulfur dioxide emission limitations and percentage reduction requirements under paragraphs III.A.3.a and b of this attachment shall be based on the average emission rate for 30 successive boiler operating days. A separate performance test shall be completed at the end of each boiler operating day, and a new 30 day average emission rate for sulfur dioxide and a new percent reduction for sulfur dioxide shall be calculated to show compliance with the standards. [40 CFR 60.46a(e)]

(3) Compliance shall be determined by calculating the arithmetic average of all hourly emission rates for SO_2 for the 30 successive boiler operating days, except for data obtained during startup, shutdown, or the emergency conditions defined in 40 CFR 60.41a. Compliance with the percentage reduction requirement for SO_2 shall be determined based on the average inlet and average outlet SO_2 emission rates for the 30 successive boiler operating days. [40 CFR 60.46a(g)]

(4) Permittee shall obtain SO_2 emission data for at least 18 hours in at least 22 out of 30 successive boiler operating days. If Permittee has not obtained the minimum quantity, compliance of Steam Boiler Unit 2 with the SO_2 emission requirements under paragraphs III.A.3.a and b of this attachment for the day on which the 30-day period ends may be determined by the Director by following the applicable procedures in section 7 of EPA Reference Method 19. [40 CFR 60.46a(h)]

IV. COMBINED OPERATION OF STEAM BOILER UNITS 2 AND 3

A. Emission Limits/Standards

1. Permittee shall not cause to be discharged any gases from the common stack of Steam Boiler Units 2 and 3 which contain sulfur dioxide in a megawatt weighted average over any consecutive three-hour period, as measured by the continuous emission monitoring systems, in excess of 0.8 pounds per million Btu. [PSD Permit No. M170843S1-98, Attachment "B", Condition XII.A]

2. When SO_2 emissions from the common stack of Steam Boiler Units 2 and 3 were caused to exceed the limit specified in the preceding paragraph IV.A.1 of this attachment by malfunction(s) of the

Steam Boiler Unit 2 or its associated air pollution control equipment, operation of the Unit 3 portion of the common stack of Steam Boiler Units 2 and 3 shall be included in the excess emissions reporting under Section XI.A, Attachment "A" of this permit.

[PSD Permit No. M170843S1-98, Attachment "B", Condition XII.C]

3. During all times described in paragraph IV.A.2 of this attachment, Permittee shall load compliance coal, as defined in paragraph I.B.1 of this attachment, to the silos of Steam Boiler Unit 3 in the next and subsequent coal loadings. Compliance coal shall be combusted in Steam Boiler Unit 3 for a sufficient period of time equal to that for which Steam Boiler Unit 2 has malfunctioned as defined in the preceding paragraph A.2 of this subsection. The amount of compliance coal to be loaded shall be determined by Equation 1 below: [PSD Permit No. M170843S1-98, Attachment "B", Condition XII.C]

   Equation 1

   $C = X (280) (0.54)$

   where

   C= amount of compliance coal to be loaded (tons).

   X= length of time that the Steam Boiler Unit 2 generator breaker is open or the length of time the emission limit in paragraph 1 above was exceeded, whichever is greater, or the length of time the emission limit in paragraph 1 above was exceeded due to the malfunction of the Steam Boiler Unit 2 air pollution control equipment (hours).

   280= peak gross load of Steam Boiler Unit 3 (megawatts).

   0.54= ratio of typical tons of coal burned to produce one megawatt of electrical energy for one hour.

   Compliance with the compliance coal loading procedures above shall be deemed to meet the requirements of A.A.C. R18-2-310 (A) (4) and (5), as well as the requirement of minimizing emissions as per 40 CFR 60.11(d).

B. Monitoring, Recordkeeping and Reporting Requirements

1. Permittee shall comply with all the monitoring, recordkeeping and reporting (MRR) requirements in Sections III.C and V.C of this attachment, set forth individually for Steam Boiler Units 2 and 3.

   [PSD Permit No. M170843S1-98, Attachment "B", Condition XV.A]

2. In addition to the MRR requirements for each unit, Permittee shall submit to the Department for every calendar quarter a written report of sulfur dioxide emissions from the common stack of Steam Boiler Units 2 and 3. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. The reports shall

   a. demonstrate the continuous compliance of the combined operation of Steam Boiler Units 2 and 3 with the 0.8 pounds per million Btu sulfur dioxide emission limitation in paragraph IV.A.1 of this attachment on a three-hour rolling average,

   b. set forth the hourly sulfur dioxide emission rate in pounds per million Btu for each portion of the common stack of the Steam Boiler Units 2 and 3, and the megawatt weighted average of the sulfur dioxide emissions from the two portions for each hour, and

c. include the three-hour rolling average sulfur dioxide emissions, on an hourly basis, from the common stack of Steam Boiler Units 2 and 3 in pounds per million Btu for each rolling three-hour period during each quarterly reporting period.

[PSD Permit No. M170843S1-98, Attachment "B", Condition XV.B]

3. Permittee shall record and maintain a file of each loading of compliance coal to the silos of Steam Boiler Unit 3. The file shall contain the date and amount of each load. [A.A.C. R18-2-306.A.3.b]

V. STEAM BOILER UNIT 3

A. Emission Limits/Standards

1. Opacity Standard

The opacity of emissions from the stack of Steam Boiler Unit 3 shall not be greater than 20 percent at all times except for periods of startup, shutdown, and malfunction as defined in paragraphs I.B.3, 4 and 5 of this attachment, and for one six-minute period per hour of not more than 27 percent opacity. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with the opacity standard.

[40 CFR 60.42(a)(2), 60.11(c) and 60.11(e)(1)]

2. Particulate Matter Standard

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 3, any gases which contain particulate matter in excess of 43 nanogram per joule heat input (0.10 lb per million Btu) derived from fossil fuel. [40 CFR 60.42(a)(1)]

3. Sulfur Dioxide Standard

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 3 any gases which contain sulfur dioxide in excess of 520 nanogram per joule heat input (1.2 pounds per million Btu) derived from solid fossil fuel, or 340 nanogram per joule heat input (0.8 pounds per million Btu) derived from liquid fossil fuel. [A.A.C. R18-2-903.3.c.i & ii]

4. Nitrogen Oxide Standard

a. Coal

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 3 any gases which contain nitrogen oxides, expressed as NO_2 in excess of 300 nanogram per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel. [40 CFR 60.44(a)(3)]

b. Combination Fuels

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 3, when different fossil fuels are burned simultaneously in any combination, any gases which contain nitrogen oxides in excess of the applicable standard (in ng/J) derived using the following proration formula: [40 CFR 60.44(b)]

$$PS_{NOX} = \frac{w(260) + x(86) + y(130) + z(300)}{w+x+y+z}$$

Where:

PS_{NOX} = prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;
w = percentage of total heat input derived from lignite;
x = percentage of total heat input derived from gaseous fossil fuel;
y = percentage of total heat input derived from liquid fossil fuel; and
z = percentage of total heat input derived from solid fossil fuel (except lignite).

5. Fuel Limitation [Installation Permit No. 1037]

Permittee shall burn only the following fuels in Steam Boiler Unit 3:

a. Coal;
b. No. 2 fuel oil for startup and stabilization.

B. Air Pollution Control Requirements

1. Particulate matter control

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, operate and maintain Steam Boiler Unit 3 and *its electrostatic precipitators (ESPs) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [40 CFR 60.11(d)]

2. Operation Procedures

a. Startup

During startups of Steam Boiler Unit 3, the electrostatic precipitators (ESPs) of the unit shall be placed in service as soon as practicable, but no more than one hour after fires are in the boiler and the flue gas temperature measured at the air preheater gas inlet has reached 200 degree Fahrenheit. [40 CFR 60.11(d)]

b. Shutdown

During shutdowns of Steam Boiler Unit 3, the ESPs of the unit shall remain in service until fires in the boiler are out. When fires in the boiler are out, the ESPs are automatically taken out of service. The ESPs shall remain out of service until boiler air flow is taken to greater than 30 percent of capacity for six minutes to purge the ESPs. The ESPs shall then

be returned to service and shall not be taken out of service until just prior to the boiler forced draft fans and induced draft fans being turned off. [40 CFR 60.11(d)]

c. Malfunction

For Steam Boiler Unit 3 with any malfunction of its ESPs that exceeds four hours, if fires are in the boiler, Permittee shall reduce the unit's load so that the ESP banks in service can properly process and treat the volume of flue gas being produced. If a malfunction makes it impossible to properly process and treat the volume of flue gas being produced, the unit shall be shut down. [40 CFR 60.11(d)]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Continuous Monitoring for Opacity, SO_2 and NOx Emissions, and O_2 Content

a. Opacity [40 CFR 60.45(a)]

Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions.

b. NOx [A.A.C. R18-2-306.A.3.b]

Permittee shall employ the 40 CFR 75 NOx CEMS installed on Steam Boiler Unit 3 for the purpose of periodic monitoring of the nitrogen oxides emissions under this permit.

c. SO_2 and O_2 [PSD Permit No. M170843S1-98, Attachment "B", Condition XV.A]

(1) Permittee shall calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring sulfur dioxide emissions from the stack of Steam Boiler Unit 3. [40 CFR 60.47a(b)]

(2) Permittee shall calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen content of the flue gases at the location where SO_2 emissions are monitored. [40 CFR 60.47a(d)]

(3) Permittee shall operate the SO_2 and O_2 continuous monitoring systems and record data during all periods of operation of Steam Boiler Unit 3 including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdown, repairs, calibration checks, and zero and span adjustments. [40 CFR 60.47a(e)]

d. The continuous emission monitoring systems for SO_2, NOx and O_2 shall meet the following requirements:

(1) 40 CFR Part 75, Appendix A, "Specification and Test Procedures"
[40 CFR 60.13 for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

(a) Installation and measurement location
(b) Equipment specifications
(c) Performance specifications
(d) Data acquisition and handling systems

(e) Calibration gas
(f) Certifications tests and procedures
(g) Calculations

(2) 40 CFR Part 75, Appendix B, "Quality Assurance and Quality Control Procedure"
[40 CFR 60.13 for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]
(a) Quality control program
(b) Frequency of testing

(3) Data Reduction [40 CFR 60.13(h) for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

Permittee shall comply with the data reduction requirements of 40 CFR Part 75.10(d)(1).

(4) 40 CFR Part 75, Appendix F, "Conversion Procedures"
[A.A.C. R18-2-306.A.3.a for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

Permittee shall convert all hourly pollutant and diluent data to the applicable emissions standard utilizing the procedures of 40 CFR Part 75, Appendix F.

e. Sulfur Dioxide Emissions Missing Data Supplemental Procedures
[40 CFR 60.47a(f), (h) and (j) and PSD Permit No. M170843S1-98, Attachment "B", Condition XV.A]

In addition to the requirements specified in the preceding paragraph V.C.1.d of this attachment, Permittee shall obtain the SO_2 emission data for at least 18 hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement cannot be met with the continuous monitoring system in use, Permittee shall supplement SO_2 emission data with other monitoring systems approved by the Director or the following reference methods and procedures:

(1) Reference Method 6 shall be used to determine the SO_2 concentration at the same location as the SO_2 monitor.

(2) The emission rate correction factor, integrated bag sampling and analysis procedure of Reference Method 3B shall be used to determine the O_2 concentration at the same location as the O_2 monitor.

(3) The procedures in Reference Method 19 shall be used to compute each 1-hour average concentration in ng/J (pounds per million Btu).

(4) As alternatives, the reference methods and procedures described in 40 CFR 47a(j) may be used.

f. The continuous opacity monitoring system shall meet the following requirements:

(1) 40 CFR 60, Appendix B, Performance Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources"
[40 CFR 60.13]
(a) Apparatus
(b) Installation Specifications
(c) Design and Performance Specifications
(d) Design Specifications Verification Procedure

(e) Performance Specifications Verification Procedure
(f) Equations

(2) Quality assurance requirements:

(a) Calibration Checks

Permittee shall check the zero (or low-level value between 0 and 20% of span value) and span calibration drifts at least once daily in accordance with a written procedure. [40 CFR 60.13(d)(1)]

(b) Zero and Span Drift Adjustments

i) The zero and span shall, as a minimum, be adjusted whenever the 24-hr zero drift or 24-hr span drift exceeds 4% opacity. [40 CFR 60.13(d)(1)]

ii) The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. [40 CFR 60.13(d)(1)]

iii) The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. [40 CFR 60.13(d)(1)]

iv) For systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity. [40 CFR 60.13(d)(1)]

(c) System Checks

A method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam to provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly shall be used by the Permittee. [40 CFR 60.13(d)(2)]

(d) Minimum Frequency of Operation

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [40 CFR 60.13(e)(1)]

(e) Data Reduction Procedures [40 CFR 60.13(h)]

i) Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

ii) Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under

the previous paragraph. An arithmetic or integrated average of all data may be used.

g. Recordkeeping and Reporting Requirements

(1) Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this section recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports and records.

[40 CFR 60.7(f)]

(2) Permittee shall comply with all the recordkeeping and reporting requirements of 40 CFR Part 75 Subparts F and G, respectively. [40 CFR 60.7]

(3) Permittee shall record in a permanent log for each shutdown, the date and time Steam Boiler Unit 3 intends to begin dropping load to go off line. The log shall be retained for at least five (5) years following the date of each shutdown. [A.A.C. R18-2-306.A.4]

(4) Quarterly excess emissions and monitoring system performance reports

(a) Permittee shall submit an excess emissions and monitoring systems performance (MSP) report and/or a summary report form to the Department for every calendar quarter, unless the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and the continuous monitoring system downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, in which case only the summary report form shall be submitted and the excess emissions report need not be submitted unless requested by the Department. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.7(c) and (d), 45(g) and 49a(i)]

(b) The summary report form submission required in the preceding paragraph (a) shall be in the format specified in 40 CFR 60.7(d). Each excess emission and MSP report shall include the following information: [40 CFR 60.7(c)]

i) The magnitude of excess emissions computed, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

ii) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the steam boiler unit. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(c) Definitions

Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

i) Opacity

Opacity excess emissions are defined as any six-minute period during which the average opacity of emissions from Steam Boiler Unit 3 stack exceeds 20 percent opacity as measured by a continuous opacity monitor, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

[40 CFR 60.45(g)(1)]

ii) Sulfur Dioxide

SO_2 excess emissions are defined as any three-hour period during which, the average SO_2 emissions from Steam Boiler Unit 3 stack (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed 1.2 pounds per million Btu for solid fossil fuel or 0.8 pounds per million Btu for liquid fossil fuel, as specified in paragraph V.A.3 of this attachment.

[40 CFR 60.45(g)(2)]

(5) Emission deviations reporting requirements

In addition to the quarterly reporting required under paragraph V.C.1.g(4) above, Permittee shall report emissions exceeding an emission limitation or standard as deviations in accordance with Section XI.B of Attachment "A" of this permit. [A.A.C. R18-2-306.A.5.b]

2. Periodic Monitoring for Particulate Matter [A.A.C. R18-2-306.A.3.b]

a. Permittee shall evaluate opacity measurements from the continuous opacity monitoring system (COMS) on a 3-hr rolling average excluding periods of startup, shutdown, and malfunction. If the 3-hr rolling average opacity exceeds 20 percent, Permittee shall initiate investigation of the control equipment within 24 hours of the first exceedance for possible corrective action. If corrective action is required, Permittee shall proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the particulate standard established in paragraphs V.A.2 of this attachment. If the 3-hr rolling average opacity remains above 20 percent for 72 consecutive hours after the first exceedance, Permittee shall submit a compliance schedule to the Department in accordance with paragraph XI.D of the Attachment "A".

b. Permittee shall log in ink or electronic format and maintain a record of 3-hr opacity measurements performed in accordance with paragraph a above and any corrective actions taken. A record of corrective actions taken shall include recording the date and time of the 3-hr rolling average opacity exceeded 20 percent and the date and time corrective action, if any, is completed.

D. Performance Testing Requirements

1. Opacity

   Permittee shall perform an annual opacity observation of the stack of Steam Boiler Unit 3 in accordance with EPA Reference Method 9. [40 CFR 60.8(a) and 46(b)(3)]

2. Particulate Matter, Sulfur Dioxide and Nitrogen Oxides

   Permittee shall perform annual performance tests for emissions of particulate matter, sulfur dioxide, and nitrogen oxides from the stack of Steam Boiler Unit 3, using the following reference methods and procedures: [40 CFR 60.8(a)]

   a. Particulate Matter

      EPA Reference Method 5 or 5B shall be used to determine the particulate matter concentration (C) at the stack of Steam Boiler Unit 3. [40 CFR 60.46(b)(2)]

   b. Sulfur Dioxide

      EPA Reference Method 6 shall be used to determine the SO_2 concentration at the stack of Steam Boiler Unit 3. [40 CFR 60.46(b)(4)]

   c. Nitrogen Oxides

      EPA Reference Method 7 shall be used to determine the nitrogen oxides concentration (C) at the stack of Steam Boiler Unit 3. [40 CFR 60.46(b)(5)]

   d. Emission Rate

      For the purpose of compliance determination, the emission rate (E) of PM or NO_x shall be computed for each run using the following equation: [40 CFR 60.46(b)(1)]

      $E = C F_d (20.9)/(20.9 - \%O_2)$

      E = emission rate of pollutant, ng/J (1b/million Btu).
      C = concentration of pollutant, ng/dscm (1b/dscf).
      $\%O_2$ = oxygen concentration, percent dry basis.
      F_d = factor as determined from Method 19.

   e. Permittee may conduct the annual performance tests using alternatives described in 40 CFR 60.46(d).

VI. STEAM BOILER UNIT 4

A. Emission Limits/Standards

1. Opacity Standard

The opacity of emissions from the stack of Steam Boiler Unit 4 shall not be greater than 20 percent at all times except for periods of startup, shutdown, and malfunction as defined in paragraphs I.B.3, 4 and 5 of this attachment, and for one six-minute period per hour of not more than 27 percent opacity. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with the opacity standard.

[40 CFR 60.42(a)(2), 60.11(c) and 60.11(e)(1)]

2. Particulate Matter Standard

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 4 any gases which contain particulate matter in excess of 43 nanogram per joule heat input (0.10 lb per million Btu) derived from fossil fuel. [40 CFR 60.42(a)(1)]

3. Sulfur Dioxide Standard

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 4 any gases which contain sulfur dioxide in excess of 340 nanograms per joule heat input (0.8 pounds per million Btu) derived from solid or liquid fossil fuel.

[A.A.C. R18-2-903.1 and 40 CFR 60.43(a)(1)]

4. Nitrogen Oxide Standard

a. Coal

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 4 any gases which contain nitrogen oxides, expressed as NO_2 in excess of 300 nanogram per joule heat input (0.70 lb per million But) derived from solid fossil fuel. [40 CFR 60.44(a)(3)]

b. Combination Fuels

Permittee shall not cause to be discharged into the atmosphere from the stack of Steam Boiler Unit 4, when different fossil fuels are burned simultaneously in any combination, any gases which contain nitrogen oxides in excess of the applicable standard (in ng/J) derived using the following proration formula: [40 CFR 60.44(b)]

$$PS_{NOX} = \frac{w(260) + x(86) + y(130) + z(300)}{w+x+y+z}$$

Where:

PS_{NOX} = prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;
w = percentage of total heat input derived from lignite;
x = percentage of total heat input derived from gaseous fossil fuel;
y = percentage of total heat input derived from liquid fossil fuel; and
z = percentage of total heat input derived from solid fossil fuel (except lignite).

5. Fuel Limitation [Installation Permit No. 1085]

Permittee shall burn only the following fuels in Steam Boiler Unit 4:

a. Coal;
b. No. 2 fuel oil for startup and stabilization;
c. Co-firing of coal and used oil or used oil fuel subject to the requirements set forth in Conditions VI.A.6.a and b of this attachment below; and

6. Used Oil and Used Oil Fuel

a. Specifications [A.R.S. §49-426.G.1]

The used oil or used oil fuel allowed to be burned shall meet the following conditions:

(1) The flash point of the oil does not fall below 100° F;
(2) The oil does not have following constituents in excess of the following allowable levels:
   (a) Arsenic 5 ppm
   (b) Cadmium 2 ppm
   (c) Chromium 10 ppm
   (d) Lead 100 ppm
   (e) PCBs 2 ppm

b. Limitations [A.R.S. §49-426.G.1]

(1) Permittee shall not burn used oil and/or used oil fuel at a feed rate greater than twenty (20) gallons per minute while co-firing with coal in Steam Boiler Unit 4 at a minimum of 230 gross MW; and
(2) Permittee shall not burn used oil and/or used oil fuel in excess of 200,000 gallons per year.

B. Air Pollution Control Requirements

1. Control Requirements

a. Sulfur dioxide

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, operate and maintain Steam Boiler Unit 4 and *its lime slurry flue gas desulfurization (FGD) system in a manner consistent with good air pollution control practice for minimizing sulfur dioxide emissions.* [40 CFR 60.11(d) and Installation Permit No. 1247]

b. Particulate matter

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, operate and maintain Steam Boiler Unit 4 and *its electrostatic precipitators (ESPs) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [40 CFR 60.11(d)]

2. Operation Procedures

a. Startup

During startups of Steam Boiler Unit 4, the electrostatic precipitators (ESPs) of the unit shall be placed in service as soon as practicable, but no more than one hour after fires are in the boiler and the flue gas temperature measured at the air preheater gas inlet has reached 200 degree Fahrenheit. The absorber of the unit shall be placed in service after the ESPs are placed in service, and before coal fires are in the boiler. [40 CFR 60.11(d)]

b. Shutdown

During shutdowns of Steam Boiler Unit 4, the ESPs of the unit shall remain in service until fires in the boiler are out. When fires in the boiler are out, the ESPs are automatically taken out of service. The ESPs shall remain out of service until boiler air flow is taken to greater than 30 percent of capacity for six minutes to purge the ESPs. The ESPs shall then be returned to service and shall not be taken out of service until just prior to the boiler forced draft fans and induced draft fans being turned off. The absorber of the unit shall remain in service until coal fires in the boiler are out. [40 CFR 60.11(d)]

c. Malfunction

For Steam Boiler Unit 4 with any malfunction of its ESPs that exceeds four hours, if fires are in the boiler, Permittee shall reduce the unit's load so that the ESP banks in service can properly process and treat the volume of flue gas being produced. If a malfunction makes it impossible to properly process and treat the volume of flue gas being produced, the unit shall be shut down. During malfunction of the unit's absorber, any coal loaded to the unit's conveyor system shall be compliance coal as defined in paragraph I.B.1 of this attachment, provided however that, if regular coal is being loaded to the unit's conveyor system when the malfunction occurs, Permittee shall cease the loading of regular coal to the conveyor system as soon as practicable, but in no event later than one (1) hour. [40 CFR 60.11(d)]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Continuous Monitoring for Opacity, SO_2 and NOx Emissions, and O_2 Content

a. Opacity [40 CFR 60.45(a)]

Permittee shall calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions.

b. NOx [A.A.C. R18-2-306.A.3.b]

Permittee shall employ the 40 CFR 75 NOx CEMS installed on Steam Boiler Unit 4 for the purpose of periodic monitoring of the nitrogen oxides emissions under this permit.

c. SO_2 and O_2 [40 CFR 60.45(a)]

Permittee shall calibrate, maintain, and operate continuous monitoring systems for measuring sulfur dioxide emissions and oxygen.

d. The continuous emission monitoring systems for SO_2, NOx and O_2 shall meet the following requirements:

(1) 40 CFR Part 75, Appendix A, "Specification and Test Procedures"

[40 CFR 60.13 for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

(a) Installation and measurement location
(b) Equipment specifications
(c) Performance specifications
(d) Data acquisition and handling systems
(e) Calibration gas
(f) Certifications tests and procedures
(g) Calculations

(2) 40 CFR Part 75, Appendix B, "Quality Assurance and Quality Control Procedure"

[40 CFR 60.13 for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

(a) Quality control program
(b) Frequency of testing

(3) Data Reduction [40 CFR 60.13(h) for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

Permittee shall comply with the data reduction requirements of 40 CFR Part 75.10(d)(1).

(4) 40 CFR Part 75, Appendix F, "Conversion Procedures"

[A.A.C. R18-2-306.A.3.a for SO_2 and O_2 and A.A.C. R18-2-306.A.3.b for NOx]

Permittee shall convert all hourly pollutant and diluent data to the applicable emissions standard utilizing the procedures of 40 CFR Part 75, Appendix F.

e. The continuous opacity monitoring system shall meet the following requirements:

(1) 40 CFR 60, Appendix B, Performance Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources"

[40 CFR 60.13]

(a) Apparatus
(b) Installation Specifications
(c) Design and Performance Specifications
(d) Design Specifications Verification Procedure
(e) Performance Specifications Verification Procedure
(f) Equations

(2) Quality assurance requirements:

(a) Calibration Checks

Permittee shall check the zero (or low-level value between 0 and 20% of span value) and span calibration drifts at least once daily in accordance with a written procedure.

[40 CFR 60.13(d)(1)]

(b) Zero and Span Drift Adjustments

i) The zero and span shall, as a minimum, be adjusted whenever the 24-hr zero drift or 24-hr span drift exceeds 4% opacity. [40 CFR 60.13(d)(1)]

ii) The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. [40 CFR 60.13(d)(1)]

iii) The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. [40 CFR 60.13(d)(1)]

iv) For systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity. [40 CFR 60.13(d)(1)]

(c) System Checks

A method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam to provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly shall be used by the Permittee. [40 CFR 60.13(d)(2)]

(d) Minimum Frequency of Operation

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [40 CFR 60.13(e)(1)]

(e) Data Reduction Procedures [40 CFR 60.13(h)]

i) Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

ii) Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under the previous paragraph. An arithmetic or integrated average of all data may be used.

f. Recordkeeping and Reporting Requirements

(1) Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this section recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports and records. [40 CFR 60.7(f)]

(2) Permittee shall comply with all the recordkeeping and reporting requirements of 40 CFR Part 75 Subparts F and G, respectively. [40 CFR 60.7]

(3) Permittee shall record in a permanent log for each shutdown, the date and time Steam Boiler Unit 4 intends to begin dropping load to go off line. The log shall be retained for at least five (5) years following the date of each shutdown. [A.A.C. R18-2-306.A.4]

(4) Quarterly excess emissions and monitoring systems performance reports

(a) Permittee shall submit an excess emissions and monitoring systems performance (MSP) report and/or a summary report form to the Department for every calendar quarter, unless the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and the continuous monitoring system downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, in which case only the summary report form shall be submitted and the excess emissions report need not be submitted unless requested by the Department. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.7(c) and (d) and 45(g)]

(b) The summary report form submission required in the preceding paragraph (a) shall be in the format specified in 40 CFR 60.7(d). Each excess emission and MSP report shall include the following information: [40 CFR 60.7(c)]

i) The magnitude of excess emissions computed, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

ii) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(c) Definitions

Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

i) Opacity

Opacity excess emissions are defined as any six-minute period during which the average opacity of emissions from Steam Boiler Unit 4 stack exceeds 20 percent

opacity as measured by a continuous opacity monitor, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

[40 CFR 60.45(g)(1)]

ii) Sulfur Dioxide

SO_2 excess emissions are defined as any three-hour period during which the average SO_2 emissions from Steam Boiler Unit 4 stack (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed 0.8 pound per million Btu, as specified in paragraph VI.A.3 of this attachment. [40 CFR 60.45(g)(2)]

(5) Emission deviations reporting requirements

In addition to the quarterly reporting required under paragraph VI.C.1.e(4) above, Permittee shall report emissions exceeding an emission limitation or standard as deviations in accordance with Section XI.B of Attachment "A" of this permit. [A.A.C. R18-2-306.A.5.b]

2. Periodic Monitoring for Particulate Matter [A.A.C. R18-2-306.A.3.b]

a. Permittee shall evaluate opacity measurements from the continuous opacity monitoring system (COMS) on a 3-hr rolling average excluding periods of startup, shutdown, and malfunction. If the 3-hr rolling average opacity exceeds 20 percent, Permittee shall initiate investigation of the control equipment within 24 hours of the first exceedance for possible corrective action. If corrective action is required, Permittee shall proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the particulate standard established in paragraphs VI.A.2 of this attachment. If the 3-hr rolling average opacity remains above 20 percent for 72 consecutive hours after the first exceedance, Permittee shall submit a compliance schedule to the Department in accordance with paragraph XI.D of the Attachment "A".

b. Permittee shall log in ink or electronic format and maintain a record of 3-hr opacity measurements performed in accordance with paragraph a above and any corrective actions taken. A record of corrective actions taken shall include recording the date and time of the 3-hr rolling average opacity exceeded 20 percent and the date and time corrective action, if any, is completed.

3. Recordkeeping and Reporting for Used Oil or Used Oil Fuel Burning

a. Permittee shall record and maintain a file of each batch of used oil or used oil fuel burned in Steam Boiler Unit 4. The file shall be retained for at least five (5) years following the date of each burn and shall contain the following:

(1) Date and duration of each burn;
(2) Type, amount and feed rate (gallons per minute) of each burn;
(3) Gross megawatt of Steam Boiler Unit 4 during each burn;
(4) Flash point and chemical constituent concentrations (ppm) for each burn that has been tested under paragraph VI.D.3 of this attachment; and
(5) Date and time when the used oil or used oil fuel is sampled.

[A.R.S. §49-426.G.4]

b. Permittee shall apply for a permit revision for any increase of the used oil or used oil fuel limits specified in paragraph VI.A.6.b of this attachment. [A.R.S. §49-426.01.B]

c. All tests conducted pursuant to paragraph VI.D.3 of this attachment shall be documented and a report submitted to the Department along with the semiannual compliance certification. [A.R.S. §49-426.G.4]

D. Performance Testing Requirements

1. Opacity

Permittee shall perform an annual opacity observation of the stack of Steam Boiler Unit 4 in accordance with EPA Reference Method 9. [40 CFR 60.8(a) and 46(b)(3)]

2. Particulate Matter, Sulfur Dioxide and Nitrogen Oxides

Permittee shall perform annual performance tests for emissions of particulate matter, sulfur dioxide, and nitrogen oxides from the stack of Steam Boiler Unit 4, using the following reference methods and procedures: [40 CFR 60.8(a)]

a. Particulate Matter

EPA Reference Method 5 or 5B shall be used to determine the particulate matter concentration (C) at the stack of Steam Boiler Unit 4. [40 CFR 60.46(b)(2)]

b. Sulfur Dioxide

EPA Reference Method 6 shall be used to determine the SO_2 concentration at the stack of Steam Boiler Unit 4. [40 CFR 60.46(b)(4)]

c. Nitrogen Oxides

EPA Reference Method 7 shall be used to determine the NO_x concentration at the stack of Steam Boiler Unit 4. [40 CFR 60.46(b)(5)]

d. Emission Rate

For the purpose of compliance determination, the emission rate (E) of PM, SO_2 or NO_x shall be computed for each run using the following equation: [40 CFR 60.46(b)(1)]

$E = C F_d (20.9)/(20.9 - \%O_2)$

E = emission rate of pollutant, ng/J (1b/million Btu).
C = concentration of pollutant, ng/dscm (1b/dscf).
$\%O_2$ = oxygen concentration, percent dry basis.
F_d = factor as determined from Method 19.

e. Permittee may conduct the annual performance tests using alternatives described in 40 CFR 60.46(d).

3. Used Oil and Used Oil Fuel Testing [A.R.S. §49-426.G.2]

Permittee shall perform a semiannual sample test for the used oil and/or used oil fuel to be burned for flash point and concentrations (ppm) of Arsenic, Cadmium, Chromium, Lead, and PCBs, using the analytical methods specified in EPA Publication SW-846, Third Edition (document number 955-001-00000-1). All sample tests shall be conducted in the laboratories certified by the Arizona Department of Health Services.

VII. COOLING TOWERS 3 AND 4

A. Emission Limits/Standards

1. Opacity Standard

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent from Cooling Tower 3 or 4 the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation. [A.A.C. R18-2-702.B and C]

2. Particulate Matter Standard

Permittee shall not cause, allow or permit the emission of particulate matter from Cooling Tower 3 or 4 in excess of the amounts calculated by the following equation:

$E = 55.0\ P^{0.11} - 40$

Where:
E = The maximum allowable particulate emissions rate in pounds-mass per hour;
P = The process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

[A.A.C. R18-2-730.A.1(b)]

VIII. COAL PREPARATION PLANT

A. Emission Limits/Standards

1. Opacity Standard

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent from the coal preparation plant the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation. [A.A.C. R18-2-702.B and C]

2. Particulate Matter Standard [A.A.C. R18-2-716.B & D]

Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from the coal preparation plant in total quantities in excess of the amounts calculated by the following equation:

$E = 55.0\ P^{0.11} - 40$

Where:

E = The maximum allowable particulate emissions rate in pounds-mass per hour.
P = The process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emissions of particulate matter.

B. Air Pollution Control Requirements

Permittee shall operate and maintain *water spraying/chemical dust suppression at the feeders during railcar unloading, at the screen feeders during screening, at the coal piles during stockpiling, and at the entrance and exit of the crusher during crushing, in a manner consistent with good air pollution control practice for minimizing particulate matter emissions from the coal preparation plant.*

[Installation Permit No. 1160]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Opacity [A.A.C. R18-2-306.A.3.b]

   a. A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the coal preparation plant when it is in operation. This weekly survey shall include observation of all coal processing and conveying equipment and associated dust collectors.

   b. If the observer sees a plume from an emission point that on an instantaneous basis appears to exceed 40% opacity, the observer shall take a six-minute Method 9 observation of the plume. If conditions prevent the observation, the observer shall document these conditions.

   c. If the six-minute opacity of the plume is less than 40%, the observer shall keep a record of the following:
      (1) Date and time of the Method 9 observation; and
      (2) The results of the Method 9 observation.

   d. If the six-minute opacity of the plume exceeds 40%, Permittee shall do the following:
      (1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
      (2) Report it as an excess emission in accordance with Section XI.A of Attachment A of this permit.

2. Particulate Matter [A.A.C. R18-2-306.A.4]

a. The water spraying/chemical dust suppressing system for the coal preparation plant shall be operated and maintained in accordance with the manufacturer's specification. These specifications shall be on file and shall be readily available for inspection by the Department.

b. Permittee shall maintain records of emissions control equipment maintenance performed on the water spraying/chemical dust suppressing system.

IX. FLY ASH HANDLING FACILITY

A. Emission Limits/Standards

1. Opacity

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent from the fly ash silo vent the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation.

[A.A.C. R18-2-702.B and C]

2. Particulate Matter [A.A.C. R18-2-730.A.1.b and B]

Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from the fly ash silo baghouse exhaust vent in total quantities in excess of the amounts calculated by the following equation:

$E = 55.0 P^{0.11} - 40$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight rate in tons-mass per hour.

B. Air Pollution Control Requirements

Permittee shall operate and maintain *at all times the baghouse in a manner consistent with good air pollution control practice for minimizing particulate matter emissions from the fly ash silo vent.*

[Installation Permit No. 1244]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Opacity [A.A.C. R18-2-306.A.3.b]

a. A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the flyash silo baghouse exhaust vent when the fly ash handling is in process.

b. If the observer sees a plume that on an instantaneous basis appears to exceed 40% opacity, the observer shall take a six-minute Method 9 observation of the plume. If conditions prevent the observation, the observer shall document these conditions.

c. If the six-minute opacity of the plume is less than 40%, the observer shall keep a record of the following:

(1) Date and time of the Method 9 observation; and
(2) The results of the Method 9 observation.

d. If the six-minute opacity of the plume exceeds 40%, Permittee shall do the following:

(1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
(2) Report it as an excess emission in accordance with Section XI.A of Attachment A of this permit.

2. Particulate Matter

a. Permittee shall maintain and operate the fly ash silo baghouse in accordance with the manufacturer's specification. These specifications shall be on file and shall be readily available for inspection by the Department. [Installation Permit No. 1244]

b. Permittee shall maintain records of emissions control equipment maintenance performed on the fly ash silo baghouse. [Installation Permit No. 1244]

X. LIME HANDLING AND SLAKING

A. Emission Limits/Standards

1. Opacity

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent from the lime silo baghouse exhaust vent or the lime slaking wet scrubber exhaust vent the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation. [A.A.C. R18-2-702.B and C]

2. Particulate Matter [A.A.C. R18-2-730.A.1.a and B]

Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from the lime silo baghouse exhaust vent or the lime slaking wet scrubber exhaust vent in total quantities in excess of the amounts calculated by the following equation:

$E = 4.10\ P^{0.67}$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight rate in tons-mass per hour.

B. Air Pollution Control Requirements

Permittee shall, during operation of the lime handling and slaking facility, operate and maintain *a wet scrubber on the lime slaker vent and a baghouse on the lime silo vent in a manner consistent*

with good air pollution control practice for minimizing particulate matter emissions from those vents.

[Installation Permit No. 1247]

C. Monitoring, Recordkeeping and Reporting Requirements

1. Opacity [A.A.C. R18-2-306.A.3.b]

   a. A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the lime silo baghouse exhaust vent and the lime slaking wet scrubber exhaust vent when the lime handling and slaking is in process.

   b. If the observer sees a plume from an emission point that on an instantaneous basis appears to exceed 40% opacity, the observer shall take a six-minute Method 9 observation of the plume. If conditions prevent the observation, the observer shall document these conditions.

   c. If the six-minute opacity of the plume is less than 40%, the observer shall keep a record of the following:

      (1) Date and time of the Method 9 observation; and
      (2) The results of the Method 9 observation.

   d. If the six-minute opacity of the plume exceeds 40%, Permittee shall do the following:

      (1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
      (2) Report it as an excess emission in accordance with Section XI.A of Attachment A of this permit.

2. Particulate Matter [A.A.C. R18-2-306.A.4]

   a. Permittee shall maintain and operate the lime silos baghouse and lime slaker vent wet scrubber in accordance with the manufacturer's specification. These specifications shall be on file and shall be readily available for inspection by the Department.

   b. Permittee shall maintain records of emissions control equipment maintenance performed on the lime silo baghouse and lime slaker vent wet scrubber.

XI. NON-POINT SOURCES

A. Emission Limits/Standards

1. Open Areas, Roadways & Streets, Storage Piles, and Material Handling

   a. Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40% opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. Open fires permitted under A.A.C. R18-2-602 are exempt from this requirement. [A.A.C. R18-2-610]

b. Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means; [A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means; [A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed; [A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust; [A.A.C. R18-2-605.B]

(5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust; [A.A.C. R18-2-606]

(6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored; [A.A.C. R18-2-607.A]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents; [A.A.C. R18-2-607.B]

(8) Take reasonable precautions such as the use of dust suppressants before the cleaning of site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means; or [A.A.C. R18-2-804.B]

(9) Any other method as proposed by Permittee and approved by the Director. [A.A.C. R18-2-306.A.3.b]

2. Open Burning [A.A.C. R18-2-602]

Except as provided in A.A.C. R18-2-602.C(1), C(3), and C(4), and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits Permittee shall not conduct open burning.

B. Monitoring, Recordkeeping and Reporting Requirements

1. Open Areas, Roadways & Streets, Storage Piles and Material Handling

Permittee shall maintain records of the dates on which any of the activities listed in XI.A.1.b.(1) through (9) of this attachment were performed and control measures adopted.

[A.A.C. R18-2-306.A.3.b]

2. Open Burning

The monitoring requirements for Section XI.A.2 of this attachment may be complied with by maintaining copies of all open burning permits on file. [A.A.C. R18-2-306.A.3.b]

XII. OTHER PERIODIC ACTIVITIES

A. Emission Limits/Standards

1. Abrasive Blasting [A.A.C. R18-2-726]

a. Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include, but are not limited to:

(1) wet blasting;
(2) effective enclosures with necessary dust collecting equipment; or
(3) any other method as proposed by Permittee and approved by the Director.

b. Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 40% opacity , measured in accordance with EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation.

[A.A.C. R18-2-702.B and C]

2. Use of Paints

While performing spray painting operations Permittee shall comply with the following requirements:

a. Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray. [A.A.C. R18-2-727.A]

b. Permittee or his designated contractor shall not either:

(1) Employ, apply, evaporate or dry any architectural coating containing photo-chemically reactive solvents for industrial or commercial purposes; or
(2) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727.B]

c. For the purposes of parts b. and e. of this condition, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in paragraphs (1) through (3) of this subsection, or which exceeds

any of the following percentage composition limitations, referred to the total volume of solvent: [A.A.C. R18-2-727.C]

(1) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: five percent

(2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent

(3) A combination of ethylbenzene, ketones having branched structures, trichloro-ethylene or toluene: 20 percent

d. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection c(1) through c(3) of this condition, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents. [A.A.C. R18-2-727.D]

e. Permittee shall not dispose by evaporation more than 1.5 gallons of photo-chemically reactive solvent in any one day. [SIP Provision R9-3-527.C]

f. Visible emissions from spray painting operations shall not have an opacity greater than 40%, measured in accordance with by EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedance of any visible emissions requirements, such exceedance shall not constitute a violation. [A.A.C. R18-2-702.B and C]

3. Solvent Degreasing

Permittee shall process, store, use, and transport materials including solvents or volatile compounds in such a manner and by such means that they will not evaporate, leak, escape, or be otherwise discharged into the atmosphere so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage, or discharge, the installation and usage of such control methods, devices, or equipment shall be mandatory. [A.A.C. R18-2-730.F]

4. Roadway and Site Cleaning Machinery

Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C. R18-2-804.A]

5. Demolition/Renovation

Permittee shall comply with all of the requirements of 40 CFR 61, Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos). [A.A.C. R18-2-1101.A.8]

6. Nonvehicle Air Conditioner Maintenance and/or Services

Permittee shall comply with the applicable requirements of 40 CFR 82 - Subpart F (Protection of Stratospheric Ozone - Recycling and Emissions Reduction). [40 CFR 82, Subpart F]

B. Monitoring, Recordkeeping and Reporting Requirements

1. Abrasive Blasting

   Each time an abrasive blasting project is conducted, Permittee shall log in ink or in an electronic format, a record of the following:

   a. The date the project was conducted;
   b. The duration of the project; and
   c. Type of control measures employed.

2. Use of Paints

   a. Each time a spray painting project is conducted, Permittee shall log in ink or in an electronic format, a record of the following:

      (1) The date the project was conducted;
      (2) The duration of the project;
      (3) Type of control measures employed; and
      (4) Material Safety Data Sheets for all paints and solvents used in the project.

   b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of part a. above.

3. Roadway and Site Cleaning Machinery

   Permittee shall keep a record of all emission related equipment maintenance activities performed on roadway and site cleaning machinery stationed at the facility as per manufacturer's specifications.

4. Demolition/Renovation

   As a means of demonstrating compliance with condition XII.A.5 of this Attachment, Permittee shall keep a record of all relevant paperwork on file. The relevant paperwork shall include but not be limited to the "NESHAP Notification for Renovation and Demolition Activities" form, and all supporting documents.

5. Nonvehicle Air Conditioner Maintenance and/or Services

   As a means of demonstrating compliance with condition XII.A.6 of this Attachment, Permittee shall keep a record of all relevant paperwork to the applicable requirements of 40 CFR 82 - Subpart F on file.

ATTACHMENT "C": APPLICABLE REQUIREMENTS

Air Quality Control Permit No. 1000108
For
Arizona Public Service Company - Cholla Power Plant

Unless otherwise identified as state applicable, all the requirements listed in this attachment are federal air pollution control requirements applicable to the Permittee at the time the permit is issued. Except for Acid Rain Provisions, compliance with the terms contained in this permit shall be deemed compliance with the following applicable requirements in effect on the date of permit issuance:

ARIZONA ADMINISTRATIVE CODE (A.A.C.) TITLE 18, Chapter 2

Article 6	**Emissions from Existing and New Nonpoint Sources**
R18-2-601	General
R18-2-602	Unlawful Open Burning
R18-2-604	Open Areas, Dry Washes, or Riverbeds
R18-2-605	Roadways and Streets
R18-2-606	Material Handling
R18-2-607	Storage Piles
R18-2-610	Evaluation of Nonpoint Source Emissions
Article 7	**Existing Stationary Source Performance Standards**
R18-2-702.B	General Provisions
R18-2-702.C	General Provisions
R18-2-703.B	Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
R18-2-703.C.1	Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
R18-2-703.G.1	Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
R18-2-703.J	Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
R18-2-703.K	Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
R18-2-716	Standards of Performance for Existing Coal Preparation Plants
R18-2-726	Standards of Performance for Sandblasting Operations
R18-2-727	Standards of Performance for Spray Painting Operations
SIP R9-2-527.C	Standards of Performance for Spray Painting Operations
R18-2-730.A	Standards of Performance for Unclassified Sources
R18-2-730.D	Standards of Performance for Unclassified Sources
R18-2-730.G	Standards of Performance for Unclassified Sources
Article 8	**Emissions from Mobile Sources (New and Existing)**
R18-2-801	Classification of Mobile Sources
R18-2-802	Off-road Machinery

R18-2-804 Roadway and Site Cleaning Machinery

ATTACHMENT "C": APPLICABLE REQUIREMENTS (Contd.)

Article 9 New Source Performance Standards

R18-2-901.2 40 CFR 60, Subpart D, Fossil-Fuel-Fired Steam Generating Units for Which Construction is Commenced After August 17, 1971
R18-2-901.3 40 CFR 60, Subpart Da, Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978
R18-2-903.1 Standards of Performance for Fossil-fuel Fired Steam Generators
R18-2-903.2 Standards of Performance for Fossil-fuel Fired Steam Generators
R18-2-903.3 Standards of Performance for Fossil-fuel Fired Steam Generators

Article 11 Federal Hazardous Air Pollutants

R18-2-1101.A.8 National Emission Standards for Hazardous Air Pollutants (NESHAPs), (by reference) 40 CFR 61, Subpart M - Asbestos

ARIZONA REVISED STATUTES(A.R.S.), CHAPTER 3, ARTICLE 2

A.R.S. §49-426.G Permits; duties of director; exceptions; applications; objections; fees
(The statutory requirements specified under A.R.S. §49-426.G are state applicable only)

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

40 CFR 60 Subpart A - General Provisions

40 CFR 60.7(c) General Provisions
40 CFR 60.7(d) General Provisions
40 CFR 60.7(f) General Provisions
40 CFR 60.8(b) General Provisions
40 CFR 60.8(c) General Provisions
40 CFR 60.11(a) General Provisions
40 CFR 60.11(b) General Provisions
40 CFR 60.11(c) General Provisions
40 CFR 60.11(d) General Provisions
40 CFR 60.11(e)(1) General Provisions
40 CFR 60.11(g) General Provisions
40 CFR 60.13(a) General Provisions
40 CFR 60.13(d)(1) General Provisions
40 CFR 60.13(d)(2) General Provisions
40 CFR 60.13(e)(1) General Provisions
40 CFR 60.13(h) General Provisions

40 CFR 60 Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generating Units for Which Construction is Commenced After August 17, 1971

40 CFR 60.42 Standard for Particulate Matter

40 CFR 60.43 Standard for Sulfur Dioxide
40 CFR 60.44 Standard for Nitrogen Oxides
40 CFR 60.45 Emission and Fuel Monitoring
40 CFR 60.46 Test Methods and Procedures

40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978

40 CFR 60.41a Definitions
40 CFR 60.43a Standard for Sulfur Dioxide
40 CFR 60.46a Compliance Provisions
40 CFR 60.47a Emission Monitoring
40 CFR 60.48a Compliance Determination Procedures and Methods
40 CFR 60.49a Reporting Requirements

ACCIDENTAL RELEASE PREVENTION PROGRAM

40 CFR 68 Chemical Accident Prevention Provisions

ACID RAIN PROGRAM

40 CFR 72 Permits Regulations
40 CFR 73 Sulfur Dioxide Allowance System
40 CFR 75 Continuous Emission Monitoring
40 CFR 76 Acid Rain Nitrogen Oxides Emission Reduction Program
40 CFR 77 Excess Emissions

STRATOSPHERIC OZONE PROTECTION

40 CFR 82 Subpart F - Recycling and Reducing Emissions.

INSTALLATION PERMIT

#1002 Installation of Gas Scrubber Facilities for Steam Boiler Unit 1
#1037 Installation of Steam Boiler Units 2 and 3
#1085 Installation of Steam Boiler Unit 4
#1160 Installation of Johnson-March Dust Supression System
#1244 Installation of Flyash Silo Vent Filter
#**1247** Flue Gas Desulfurization Systems, Cholla Steam Boiler Units 1 and 4.

Prevention of Significant Deterioration
#M170843S1-98 Electric Generating Facility Modification of Flue Gas Desulfurization System on Unit #2

ATTACHMENT "D": EQUIPMENT LIST

Air Quality Control Permit No. 1000108
For
Arizona Public Service Company - Cholla Power Plant

Equipment	Quantity	Manufacturer	Model/Type	Serial Number	Date Installed	Rated Capacity
UNIT 1						
Boiler - Tangential fired furnace	1	Combustion Engineering	R	19537	1961	865K lbs/hr steam flow @1925 psig @1005 degrees F at superheater outlet
Coal Mills - bowl mills	4	Combustion Engineering	#633	60814 through 60817	1961	34,000 lbs/hr coal each
Scrubber/Absorber -Lime slurry	2 Flooded disc modules	Research Cottrell	--	--	1972	240,000 acfm each with combined 80% SO_2 and 98.6% PM removal
Mechanical dust collector	1	Research Cottrell as retrofitted with Process Control Equipment internal components	--	--	1961 (retrofitted in 1998)	55% design efficiency @ 480,000 acfm at a gas density of 0.045 lbs/cf, grain loading of 6.0 gr/dscf, maximum 3.5" wg pressure drop, 2.2 sp. Gravity, with particulate distribution shown in EPA AP-42, Table 1.1.-5.
Scrubber Emergency Diesel Generator	1	Allis-Chalmers	Ser-R 2799-707	AZS097RM	--	200 KW
UNIT 2						
Boiler - Tangential fired furnace	1	Combustion Engineering	RR	7072	1974	2,015K lbs/hr steam @1990 psig @1005 degrees F at superheater outlet

Equipment	Quantity	Manufacturer	Model/Type	Serial Number	Date Installed	Rated Capacity
Coal Mills - bowl mills	5	Combustion Engineering	#863	72806 through 72810	1974	94,400 lbs/hr coal each
Scrubber/Absorber	4 wet Venturi scrubber modules and 4 absorber towers	Research Cottrell	--	--	1974	413,500 acfm each with combined 90% SO_2 and 98% PM removal.
Mechanical dust collector	1	Zurn	--	--	1974	Approx. 70% efficiency @ 248,000- 332,000 lbs/hr gas flow.
Emergency Diesel Generator	1	Beloit Power Systems	--	604588-R1	1974	750 KW @ 480 volts
UNIT 3						
Boiler - Tangential fired furnace	1	Combustion Engineering	RR	9272	1975	2,015K lbs/hr steam @1990 psig @1005 degrees F at superheater outlet
Coal Mills - bowl mills	5	Combustion Engineering	#863	74817 through 74821	1975	94,400 lbs/hr coal each
Electrostatic Precipitator (hot sided ESP)	1	Universal Oil Products	--	72-250	1975	1,850K acfm gas flow 700 degrees F gas temperature 99% PM removal efficiency.
Emergency Diesel Generator	1	Beloit Power Systems	--	504588-R2	1975	750 KW @ 480 volts
Cooling tower	1	Marley	6516-3-6 Forced draft 7 cells	--	1975	140,000 gpm water flow
UNIT 4						
Boiler - Tangential fired furnace	1	Combustion Engineering	RR	5174	1978	2,830K lbs/hr steam @1990 psig @1005 degrees F at superheater outlet

Equipment	Quantity	Manufacturer	Model/Type	Serial Number	Date Installed	Rated Capacity
Coal Mills - bowl mills	5	Combustion Engineering	#903	74840 through 74844	1978	108,000 lbs/hr coal each
Absorber	1	Research Cottrell	--	--	1978	628,700 acfm gas flow @ 95% SO_2 removal efficiency
Electrostatic Precipitator (Hot sided ESP)	1	Universal Oil Products	--	72-412	1978	2,480K acfm gas flow 700 degrees F gas temperature 99% PM removal efficiency
Emergency Diesel Generator	1	Beloit Power Systems	--	504637-R1	1978	900 KW @ 480 volts
Cooling tower	1	Marley	6516-3-6 Forced draft 11 cells	--	1978	145,000 gpm water flow
FLY ASH HANDLING SYSTEM						
Fly ash Baghouse	2	GE	GE-154-6-12P	--	1988	100% capacity pulse-jet baghouse, 154 bags per baghouse, 6"x12' bags
LIME SLAKING SYSTEM						
Lime Silo Baghouse	1	Flex-Kleen	58 BVBS 25IIG	W33793	1994	25 bags, pulse jet baghouse, 6"x6' bags
Lime Slaker Vent Wet Scrubber	1	Ducon	UW-4 IV size 30	--	1994	2500 inlet acfm @200 degree F
COAL WETTING SYSTEM						
Coal Dust Suppression System	1	Nalco	Nalco #	--	1995	Chemical treatment and/or wetting at each crusher and various transfer points as needed.

Equipment	Quantity	Manufacturer	Model/Type	Serial Number	Date Installed	Rated Capacity
COAL HANDLING SYSTEM						
Conveyor Belts	28	Continental Conveyor	--	--	--	Various
Crushers	3	Continental Conveyor	--	--	--	--
Grizzly	2	Continental Conveyor	--	--	--	600 tons per hr / 1200 tons per hr
Hoppers	9	Continental Conveyor	--	--	--	--
Stackers	2	Continental Conveyor	--	--	--	--

Stack Parameters

Identification	Stack 1	Stack 2	Stack 3	Stack 4	Stack 2/3
Description	Round Vertical Stack	Round Vertical Stack	Round Vertical Stack	Round Vertical Stack	See Stack 2 and Stack 3 for parameters
Building Dimensions (boiler structure)	50 ft W 100 ft L 155 ft H	100 ft W 100 ft L 217 ft H	100 ft W 100 ft L 217 ft H	120 ft W 100 ft L 247 ft H	
Exit Gas temperature	155 F	178 F	316 F	255 F	
Exit gas velocity	42.6 ft/sec	106.3 ft/sec	90.46 ft/sec	70.07 ft/sec	
Height	250 ft	550 ft	550 ft	550 ft	
Inside Dimensions	12.9 ft	14.67 ft	17.5 ft	19.17 ft	

Continuous Emission Monitors

Steam Unit	NOx Monitor	SO_2 Monitor	O_2 Monitor	Opacity Monitor	Flow Monitor
Steam unit 1	Beckman 951	Western Research 721AT	Siemens Oxymat 5E	Dynatron 1100M	United Sciences 100
Steam unit 2	Beckman 951	Inlet: Western Research 721AT	Inlet: Siemens Oxymat 5E	Dynatron 1100M	United Sciences 100
		Outlet: Western Research 721M	Outlet: Siemens Oxymat 5E		
Steam unit 3	Beckman 951	Western Research 721AT	Siemens Oxymat 5E	Dynatron 1100M	United Sciences 100
Steam unit 4	Beckman 951	Western Research 721AT	Siemens Oxymat 5E	Dynatron 1100M	United Sciences 100

ATTACHMENT "E": INSIGNIFICANT ACTIVITIES

Air Quality Control Permit No. 1000108
For
Arizona Public Service Company - Cholla Power Plant

Source No.	Potential Emission Points Classified as "Insignificant Activities" Pursuant to A.A.C. R18-2-101.54
1	Scale Inhibitor Storage Tank
2	Scale Inhibitor Storage Tank
3	Condensate Storage Tanks
4	Aux. Cooling System Clam Treatment
5	Chemical Day Tanks (3 Tanks/unit)
6	Lake Intake Clam Treatment
7	Stack Gas Analyzers+ Gas Cylinders
8	Potable Water Head Tanks
9	Service Water Tanks
10	De-aerator Tanks
11	Turbine Lube Oil Tanks
12	Equip. Lube Oil Storage Tanks
13	Sedi. Pond Transfer Pump Vents
14	Sludge Tanks(1)
15	Demister Water Tank
16	Diesel Fuel Storage Tank (Small)
17	Fuel Oil Storage Tank (414,540 gal.)
18	Gasoline, Diesel Storage Tank(ast)
19	Acid and Caustic Tanks (Empty)
20	Glycol Storage Tank
21	Glycol Expansion Tank(2)
22	Process Water Tank
23	Boiler Feed Pump Seal Water Tank
24	Vacuum Pumps
25	Air Ejectors
26	Absorber Feed Pumps Bearings
27	Scrubber Feed Pumps
28	Fire Water Diesel Pumps(2)
29	Fire Water Tanks (2)
30	Fly Ash Blowers Oil Reservoirs
31	200 KW Allis-Chalmers Emergency Diesel Generator, Model Ser-R2799-707, S/N AZS097RM

32	750 KW Beloit Power Emergency Diesel Generator, S/N 604588-R1
33	750 KW Beloit Power Emergency Diesel Generator, S/N 504588-R2
34	900 KW Beloit Power Emergency Diesel Generator, S/N 504637-R1
35	Boiler Blowdowns
36	Gland Steam Condenser Exhausters
37	Reagent Feed Tanks Pumps(4)
38	Reagent Storage Tank Pumps (2)
39	Elemental Sulfur Tank
40	Elemental Sulfur Tank Pump
41	Bottom Ash Trans., Makeup Tank
42	Pyrite Transfer Tank
43	Electric Hydraulic Control Reservoir
44	Bathroom Vents
45	Woodworking
46	Maintenance Shop Activities
47	Electric Water Heaters
48	Electric Space Heaters
49	Battery Charging Areas
50	Breakers
51	Lab Chemicals
52	Kitchen Hoods
53	Charcoal Grills
54	Welding Hood Exhaust
55	Mercury Recovery Hood
56	Pulveriser Pyrite Chutes(5)
57	Insulation Shop Vent
58	Boiler Casing Leaks
59	Bottom Ash Transfer Sump
60	Coal Lab Vent
61	Misc. Steam Vents(6 -8)
62	Natural Gas Line Vents
63	Parts Cleaners
64	Welding Rod Fumes
65	Boiler Drains and Vents
66	Lake Intake Closed Sump
67	Lake Intake Trash Rakes
68	Locomotive Building Vent
69	Satellite Oil/haz Waste Areas
70	Lube Rack(s), Lube Building Vent
71	Oil Drip Racks
72	Portable Heaters, Propane Tanks
73	Track Straightener Machine

74	Coal Crusher Tower Lube System
75	Cooling Towers Fan Motors Vents-18
76	Unit Condensate Pump Vents(2)
77	Electric Hydraulic System Venting
78	Boiler Feed Pump(s) Oil Cooling Vents(2)
79	Instrument Air Compressor Vents
80	Station Air Compressors
81	Turbine Oil Cooling Vent(2)
82	Closed Cooling Water Tank Vent
83	ID/FD Fans Oil Cooling Vents
84	Air Preheater Vents
85	Air Preheater Guide Bearing Vents
86	O/W Separators (2)
87	Control Room Bathroom Vents
88	Laboratory Hoods
89	Bathroom Vents by Labs
90	Electric & Instrument Battery Charging
91	Main Transformers (Plus the Two Following Items)
92	Stand -By/Auxiliary Transformers
93	Switchyard Transformers/gear
94	Sewage Treatment Plant
95	Potable Water System Hypochlorinators
96	Rotary Blower Pump Vent
97	Degasifier Transfer Pump Vent(2)
98	Cooling Water Sump Pump Vents(2)
99	Potable Water System Booster Pump Vent
100	Electro-dryer Pump Vent
101	Glycol Feed Pumps Vents
102	Emergency Cooling Water Pumps(2)
103	Glycol Circ. Pumps Vents(2)
104	Clear Well Sump Pump
105	Seal Oil Pumps(3)
106	Turbine Lube Oil Pumps(3)
107	AC Equipment
108	Misc. Lube Oil Vents
109	Feedwater Heater Shell Side Vents
110	Ash Sluice Vents (3)
111	Filter Cleaning Bldg.
112	Scrubber Control Room Vent
113	Absorber Tank
114	Absorber Feed Pump (3)
115	Absorber Feed Pump(4), Scrubber Feed Pump(4)

116	Quencher Feed Pump(2)
117	Portable Welders
118	Absorber Area Sump Pump Vent (2)
119	Sludge Disposal Pumps (4)
120	Flyash Hopper Diffuser Blowers (2)
121	Warehouses (2) Bathroom Vents
122	WAREHOUSES (2) BLDG. VENTS
123	Bechtel Construction Bldg. Br Vents
124	Auto Shop Bathroom Vents
125	General Water Bldg. Vent
126	Slurry Disposal Bldg. Vents
127	Slurry Disposal Pumps Vents
128	Bottom Ash Disposal Vents
129	Coal Handling Bldg. Vents
130	Electric & Instrument Room Vents
131	Machine Shop Vent
132	Maintenance Bldg. Vents
133	Maintenance Bathroom Vents
134	Planning Bldg. Bathroom Vents
135	Admin. Bldg. (Old) Bathroom Vents
136	Admin Bldg. (New) Bathroom Vents
137	Admin Bldg. (Old) Water Heater Vents
138	Admin Bldg. (New) Water Heater Vents
139	Portable Generators/Pumps
140	Stack Test Sampling Trailer
141	Guard Houses (2)
142	Security Building Bathroom Vents
143	Microwave Building Vent
144	Unit 1 Sedi Pump Vent
145	Unit 2, 3 & 4 Batch Oil Tank
146	Soot Blowing Air Compressors
147	Building and Yard Maintenance Fac.
148	500 Kv Control Building Vent
149	Bulldozer Maintenance Shed
150	Cathodic Protection System

ATTACHMENT "F": PHASE II ACID RAIN PROVISIONS

Air Quality Control Permit No. 1000108
For
Arizona Public Service Company - Cholla Power Plant

I. Statement of Basis

Statutory and Regulatory Authorities: In accordance with Arizona Revised Statutes, Title 49, Chapter 3, Article 2, Section 426.N, and Titles IV and V of the Clean Air Act, the Arizona Department of Environmental Quality issues this Phase II Acid Rain Permit pursuant to Arizona Administrative Code, Title 18, Chapter 2, Article 3, Section 333 (A.A.C. R18-2-333), "Acid Rain".

II. SO_2 Allowance† Allocations and NO_x Requirements for each affected unit

		1998	1999	2000	2001	2002	2003	2004
Unit 1	SO_2 allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	2206*	2206*	2206*	2206*	2206*
	NO_x limit	Pursuant to 40 CFR 76.8(d)(2), Arizona Department of Environmental Quality approves a NOx early election compliance plan for Unit 1. The compliance plan is effective for calendar year 2000 through calendar year 2007. Under the compliance plan, the unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.5(a)(1) of 0.45 lb/MMBtu for tangentially fired boilers. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit shall not be subject to the applicable emission limitation, under 40 CFR 76.7(a)(1), of 0.40 lb/MMBtu until calendar year 2008.						

		1998	1999	2000	2001	2002	2003	2004
Unit 2	SO_2 allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	5401*	5401*	5401*	5401*	5401*
	NO_x limit	Pursuant to 40 CFR 76.8(d)(2), Arizona Department of Environmental Quality approves a NOx early election compliance plan for Unit 2. The compliance plan is effective for calendar year 2000 through calendar year 2007. Under the compliance plan, the unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.5(a)(1) of 0.45 lb/MMBtu for tangentially fired boilers. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit shall not be subject to the applicable emission limitation, under 40 CFR 76.7(a)(1), of 0.40 lb/MMBtu until calendar year 2008.						

		1998	1999	2000	2001	2002	2003	2004
Unit 3	SO_2 allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	5106*	5106*	5106*	5106*	5106*
	NO_x limit	Pursuant to 40 CFR 76.8(d)(2), Arizona Department of Environmental Quality approves a NOx early election compliance plan for Unit 3. The compliance plan is effective for calendar year 2000 through calendar year 2007. Under the compliance plan, the unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.5(a)(1) of 0.45 lb/MMBtu for tangentially fired boilers. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit shall not be subject to the applicable emission limitation, under 40 CFR 76.7(a)(1), of 0.40 lb/MMBtu until calendar year 2008.						

		1998	1999	2000	2001	2002	2003	2004
Unit 4	SO_2 allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	8266*	8266*	8266*	8266*	8266*
	NO_x limit	Pursuant to 40 CFR 76.8(d)(2), Arizona Department of Environmental Quality approves a NOx early election compliance plan for Unit 4. The compliance plan is effective for calendar year 2000 through calendar year 2007. Under the compliance plan, the unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.5(a)(1) of 0.45 lb/MMBtu for tangentially fired boilers. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit shall not be subject to the applicable emission limitation, under 40 CFR 76.7(a)(1), of 0.40 lb/MMBtu until calendar year 2008.						

† As defined under 40 CFR §72.2, "Allowance" means an authorization by the Administrator under the Acid Rain Program to emit up to one ton of sulfur dioxide during or after a specified calendar year.

* The number of allowances allocated to Phase II affected units by U.S. EPA may change in a 1998 revision to 40 CFR part 73 Tables 2, 3, and 4. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

III. Comments, Notes and Justifications

APS has early-elected for NO_x requirements on Units 1 through 4. Plans to construct Unit 5 have been postponed indefinitely.

IV. Permit Application

Permittee, and any other owners or operators of the units at this facility, shall comply with the requirements contained in the attached acid rain permit application (OMB No. 2040-0253) signed by the Alternate Designated Representative David R. Simonton on 12/21/95.